

# Georgia Rules for Safe Drinking Water

## Chapter 391-3-5

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### **391-3-5-.01 Purpose. Amended.**

The purpose of these Rules is to establish policies, procedures, requirements and standards to implement the Georgia Safe Drinking Water Act of 1977 (Act No. 231 O.C.G.A. Section 12-5-170 *et seq.*, as amended), and to carry out the purposes and requirements of the Federal Safe Drinking Water Act (PL93-523). These Rules are promulgated so that the citizens of the State of Georgia shall be assured adequate, safe drinking water of the highest quality. Any reference in these Rules to standards, procedures and requirements in other sources is a specific adoption and incorporation by reference of that source for such standard, procedure, or requirement for purposes of these rules.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Definitions" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Purpose" adopted. Filed July 5, 1977, effective July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. Jun. 1, 1989.

### **391-3-5-.02 Definitions. Amended.**

All terms used in these rules shall be interpreted in accordance with the definitions as set forth in the Georgia Safe Drinking Water Act of 1977 or as herein defined:

- (1) “Act” means the Georgia Safe Drinking Water Act of 1977, as amended.
- (2) “Action Level” means the concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.
- (3) “Aquifer” means any stratum or zone of rock beneath the surface of the earth capable of containing water or producing water from a well.
- (4) “Aquifer Testing” means a controlled pumping test of a well lasting at least 24 continuous hours in which the water level and the pumping rate are monitored at closely spaced intervals and the water level is monitored for at least as long a time following the test as the duration of the test.
- (5) “Backflow” means the reverse flow of contaminated water, other liquid, gas, or substance into the distribution system of a potable water supply.
- (6) “Back pressure” means a condition in which the pressure in a non-potable system is greater than the pressure in the potable distribution system and can cause contaminants to backflow into the potable system.
- (7) “Backsiphonage” means a form of backflow caused by a negative or below atmospheric pressure within the potable water system.
- (8) “Bag filters” are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside.
- (9) “Bank filtration” is a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s).
- (10) “Business plan” means a written plan which is prepared to demonstrate a public water system's managerial and financial capacity to comply with all drinking water regulations in effect, or likely to be in effect. The business plan is to be prepared in conformance with Appendix A of the Division’s “Minimum Standards for Public Water Systems”, latest edition. The business plan shall be updated at intervals determined by the Director.
- (11) “Best Available Technology” or “BAT” means the best technology, treatment techniques, or other means promulgated by EPA and adopted by the Division. In promulgating BAT the EPA examines the efficacy under field conditions and not solely under laboratory conditions, and takes costs into consideration when determining what technology or treatment technique is available.
- (12) “CFR” means the Code of Federal Regulations, Title 40. The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

- (13) “Capacity” means the overall capability of a water system to reliably produce and deliver water meeting all national primary drinking water regulations in effect, or likely to be in effect. Capacity encompasses the technical, managerial, and financial capabilities, as described in the latest edition of EPD’s “Minimum Standards for Public Water Systems” and will enable a water system to plan for, achieve, and maintain compliance with applicable drinking water standards.
- (14) “Cartridge filters” are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside.
- (15) “Casing” means the tubular material used to shut off or exclude a stratum or strata and to protect against entrance of contaminants during the expected life of the well.
- (16) “Coagulation” means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.
- (17) “Combined distribution system” is the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water.
- (18) “Community water system” or “CWS” means a public water system, which serves at least 15 service connections, used by year-round residents or regularly serves at least 25 year-round residents.
- (19) “Compliance cycle” means the nine-year calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three-year compliance periods. The first compliance cycle begins January 1, 1993.
- (20) “Compliance period” means a three-year calendar year period within a compliance cycle. Each compliance cycle has three-year compliance periods.
- (21) “Comprehensive performance evaluation” or “CPE” means a thorough review and analysis of a treatment plant’s performance-based capabilities and associated administrative, operation and maintenance practices. It is conducted to identify factors that may be adversely impacting a plant’s capability to achieve compliance and emphasizes approaches that can be implemented without significant capital improvements. For purpose of compliance with subparts P and T of 40 CFR Part 141, the CPE shall consist of at least the following components: Assessment of plant performance; evaluation of major unit processes; identification and prioritization of performance limiting factors; assessment of the applicability of comprehensive technical assistance; and preparation of a CPE report.
- (22) “Confirmation Sample” means a sample analysis or analyses taken to verify the results of an original analysis. Each sample for the analysis shall be taken or measured at the same location in the water system as the original sample. The results of the confirmation samples shall be averaged with the original sample to determine compliance.
- (23) “Confined Aquifer” means an aquifer which is separated from the land surface by a significant zone of low permeability which prevents surface recharge or pollutants from readily reaching the aquifer.
- (24) “Confluent growth” means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

(25) “Consecutive system” is a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

(26) “Consumer Confidence Report” means an annual report that community water systems must deliver to their customers which, as a minimum, contains information on the quality of the water delivered by the system and characterizes the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

(27) “Contaminant” means any physical, chemical, biological, or radiological substance or matter in water.

(28) “Conventional filtration treatment” means a series of processes including coagulation flocculation, sedimentation, and filtration resulting in substantial particulate removal.

(29) “Corrosion Inhibitor” means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

(30) “Cross-connection” means any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage or other waste, or liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water supply as the result of backflow. By-pass arrangements, jumper connections, removable sections, swivel or changeable devices, and other temporary or permanent devices through which or because of which backflow could occur are considered to be cross-connections.

(31) “CT” is the product of “residual disinfectant concentration” (C) in milligrams per liter determined before or at the first customer tap where water is provided for human consumption and the corresponding “disinfectant contact time” (T) in minutes.

(32) “Department” means the Department of Natural Resources of the State of Georgia.

(33) “Diatomaceous earth filtration” means a process resulting in substantial particulate removal in which (1) a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane (septum), and (2) while the water is filtered by passing through the cake on the septum, additional filter media known as the body feed is continuously added to feed water to maintain the permeability of the filter cake.

(34) “Direct filtration” means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

(35) “Director” means the Director of the Environmental Protection Division, Department of Natural Resources of the State of Georgia, or his designee.

(36) “Disinfectant” means any oxidant, including but not limited to chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic microorganisms.

(37) “Disinfectant contact time” (“T” in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point where residual disinfectant concentration (“C”) is measured.

- (38) “Disinfection” means a process, which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.
- (39) “Disinfection profile” means a summary of *Giardia lamblia* inactivation through the treatment plant. The procedure for developing a disinfection profile is contained in 40 CFR § 141.172. (Disinfection profiling and benchmarking) in subpart P and 141.530- 141.536 (Disinfection profile) in subpart T of 40 CFR Part 141.
- (40) “Division” means the Environmental Protection Division, Department of Natural Resources of the State of Georgia.
- (41) “Domestic or other non-distribution system plumbing problem” means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.
- (42) “Dose equivalent” means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).
- (43) “Drinking Water” means water supplied to the public for human consumption from a public water system.
- (44) “Dual sample set” is a set of two samples collected at the same time and same location, with one sample analyzed for TTHM and the other sample analyzed for HAA5. Dual sample sets are collected for the purposes of conducting an IDSE under subpart U of 40 CFR, Part 141 and determining compliance with the TTHM and HAA5 MCLs under subpart V of 40 CFR, Part 141.
- (45) “Effective corrosion inhibitor residual” for the purpose of compliance with Section 395-3-5.25, means a concentration sufficient to form a protective film on the interior walls of a pipe.
- (46) “Enhanced coagulation” means the addition of sufficient coagulant for improved removal of disinfection byproduct precursors by conventional filtration treatment.
- (47) “Enhanced softening” means the improved removal of disinfection byproduct precursors by precipitative softening.
- (48) “Entry Point” means the sample point where after treatment drinking water enters the distribution system. For purposes of the Act and the Rules, “entry point” shall be defined as a sample location anywhere on the finished water line after treatment, up to and including the first service or customer tap.
- (49) “EPA” means the United States Environmental Protection Agency.
- (50) “Exemption” means approval from the Division affording a public water system, existing as of the effective date of these rules, an extended time for compliance with a maximum contaminant level or treatment technique contained in a drinking water standard. An exemption pertains to non-compliance with a maximum contaminant level for reasons other than that instance when application of a generally available treatment method fails to adequately treat the raw water source.
- (51) “Federal Act” means the Federal Safe Drinking Water Act, 1974 P.L. 93-523, as amended.
- (52) “Filter profile” means a graphical representation of individual filter performance, based on

continuous turbidity measurements or total particle counts versus time for an entire filter run, from startup to backwash inclusively, that includes an assessment of filter performance while another filter is being backwashed.

(53) “Filtration” means a process for removing particulate matter from water by passage through porous media.

(54) “Finished water” is water that is introduced into the distribution system of a public water system and is intended for distribution and consumption without further treatment, except as treatment necessary to maintain water quality in the distribution system (*e.g.*, booster disinfection, addition of corrosion control chemicals).

(55) “First draw sample” means a one-liter sample of tap water collected in accordance with Section 391-3-5-.25, that has been standing in the plumbing pipes at least 6 hours and is collected without flushing the tap.

(56) “Flocculation” means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles by gentle stirring by hydraulic or mechanical means.

(57) “Flowing stream” is a course of running water flowing in a definite channel.

(58) “GAC10” means granular activated carbon filter beds with an empty-bed contact time of 10 minutes based on average daily flow and a carbon reactivation frequency of every 180 days, except that the reactivation frequency for GAC10 used as a best available technology for compliance with subpart V MCLs under 40 CFR § 141.64(b)(2) shall be 120 days.

(59) “GAC20” means granular activated carbon filter beds with an empty-bed contact time of 20 minutes based on average daily flow and a carbon reactivation frequency of every 240 days.

(60) “Gross alpha particle activity” means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

(61) “Gross beta particle activity” means the total radioactivity due to beta particle emission as inferred from measurement on a dry sample.

(62) “Ground water” means water obtained from wells and/or springs used as a source of water supply for a public water system.

(63) “Ground water under the direct influence of surface water” (GWUDI) means any water beneath the surface of the ground with:

(a) significant occurrence of insects or other microorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or *Cryptosporidium*, or

(b) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.

(64) “Haloacetic acids (five)” (HAA5) mean the sum of the concentrations in milligrams per liter of the haloacetic acid compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid), rounded to two significant figures after addition.

(65) “Halogen” means one of the chemical elements chlorine, bromine or iodine.



(66) “Hazardous Material” means any chemical, substance or material that is classified as Hazardous by the U.S. Environmental Protection Agency (CFR 40, Part 261).

(67) “Health hazards” mean any conditions, devices, or practices in a water supply system or its operation, which create or may create an imminent and substantial danger to the health and well-being to the water consumer.

(68) “Heterotrophic plate count” formerly known as the standard plate count, is a procedure for estimating the number of live heterotrophic bacteria in water. Unless stated otherwise, heterotrophic plate count refers to Method (9215 A), the pour plate method, as set forth in *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association, 18th Edition, 1992, pp. 9-32 to 9-34, [or subsequent edition](#).

(69) “Initial compliance period” means the first full three-year compliance period that begins January 1, 1993.

(70) “Inventory” for the purpose of Section 391-3-5-.40 means a written or computer database listing of all potential sources of ground-water pollution located within a wellhead protection area.

(71) “Lake/reservoir” refers to a natural or man-made basin or hollow on the Earth’s surface in which water collects or is stored that may or may not have a current or single direction of flow.

(72) “Large water system” for the purpose of Section 391-3-5-.25 (Lead & Copper) means a water system that serves more than 50,000 persons.

(73) “Lead service line” means a line made of lead, which connects the discharge side of the water meter to the building inlet and any lead pigtail, gooseneck or other fitting, which is connected to such lead line.

(74) “*Legionella*” means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

(75) “Locational running annual average” (LRAA) is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

(76) “Man-made beta particle and photon emitters” means all radionuclides emitting beta particles and/or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, NBS Handbook 69, except the daughter products of thorium-232, uranium-235 and uranium-238.

(77) “Maximum contaminant level” (MCL) means the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

(78) “Maximum contaminant level goal” (MCLG) means the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

(79) “Maximum residual disinfectant level” (MRDL) means a level of a disinfectant added for water treatment that may not be exceeded at the consumer’s tap without an unacceptable possibility of adverse health effects.

(80) “Maximum residual disinfectant level goal” (MRDLG) means the maximum level of a

disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are non-enforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contamination.

(81) “Medium-size water system” for the purpose of Section 391-3-5-.25 (Lead & Copper), means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

(82) “Membrane filtration” is a pressure or vacuum driven separation process in which particulate matter larger than 1 micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. This definition includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.

(83) “Minimum Community Population Determination” for the purpose of the Act and the Rules means the minimum residential population shall be determined by a mathematical calculation of the total number of active residential service connections, multiplied by Georgia’s average population per household, as published in the most recent Federal Census Bureau Statistics. Multiple residential units served by a single connection (master meter) shall be included in the determination of population for a water system.

(84) “Near the first service connection” means at one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

(85) “Non-community water system” or “NCWS” means a public water system, which provides piped water for human consumption to at least 15 service connections or which serves at least 25 individuals at least 60 days out of the year but which is not a community water system. A non-community water system may be further classified as a “non-transient, non-community water system” or a “transient, non-community water system”.

(86) “Non-transient, non-community water system” or “NTNCWS” means a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.

(87) “Operator” means the person responsible for the maintenance and operation of the public water system. A certified operator is an operator registered as a Water Treatment Plant Operator in the State of Georgia in accordance with the provisions of the Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act (Georgia Laws 1969, pp. 272 et. seq., as amended). For purposes of this Act a certified operator also includes persons involved with only the storage and distribution of drinking water.

(88) “Optimal corrosion control treatment” as it applies to Section 391-3-5.25 (Lead & Copper) of this Rule, means the corrosion control treatment that minimizes the lead and copper concentrations at user's taps while insuring that the treatment does not cause the water to violate any national primary drinking water regulation.

(89) “Person” means any individual, corporation, company, association, partnership, county, municipality, State agency, State authority, Federal agency, agency, facility, or other entity.

(90) “Picocurie” (pCi) means that quantity of radioactive material producing 2.22 nuclear

transformations per minute.

(91) “Plant intake” refers to the works or structures at the head of a conduit through which water is diverted from a source (e.g., river or lake) into the treatment plant.

(92) “Point of disinfection application” is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

(93) “Presedimentation” is a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant.

(94) “Professional Engineer” means a person registered to practice professional engineering in the State of Georgia in accordance with the provisions of the Act governing the Practice of Professional Engineering in Georgia. (Ga. Laws 1945, p. 294 et. seq., as amended).

(95) “Professional Geologist” means a person registered to practice professional geology in the State of Georgia in accordance with the provisions of the Registration of Geologist Act of 1975, (Code 1933, §84-2101a, enacted by the Georgia Legislature 1975, p.163, 1).

(96) “Public water system” or “PWS” means a system that provides water to the public for human consumption through pipes or other constructed conveyances, if such system has at least fifteen (15) service connections or regularly serves an average of twenty-five (25) individuals daily at least 60 days out of the year. Such terms include: 1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and 2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any “special irrigation district.” A public water system is a “community water system”, a “non-transient non-community water system” or a “transient non-community water system”.

(97) “Raw water” means water from a source of water supply or a proposed source of water supply, which has not received any type of treatment to change the physical, chemical, biological, or radiological quality of the water.

(98) “Rem” means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A “millirem (mrem)” is 1/1000 of a rem.

(99) “Repeat compliance period” means any subsequent compliance period after the initial compliance period.

(100) “Repeat sample” means a sample that is collected and analyzed in response to a previous coliform-positive sample.

(101) “Residual disinfectant concentration” (“C” in CT calculations) means the concentration of disinfectant measured in milligrams per liter in a representative sample of water.

(102) “Sanitary survey” means an on-site review of the water source, facilities, equipment, treatment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of each for producing and distributing safe drinking water.

(103) “Sedimentation” means a process for removal of solids before filtration by gravity or separation.

(104) “Service connection” means the point at which the water distribution main and the water

service pipe, metered or unmetered, are connected to serve water to a residence or water customer. As used in the definition of PWS, “service connection” does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if:

(a) The water is used exclusively for purposes other than residential uses (consisting of drinking, bathing, and cooking, or other similar uses);

(b) The State determines that alternative water to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulation is provided for residential or similar uses for drinking and cooking; or

(c) The State determines that the water provided for residential or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of protection provided by the applicable national primary drinking water regulations.

(105) “Service line sample” means a one-liter sample of water collected in accordance with Section 391-3-5-.25 that has been standing for at least 6 hours in the service line.

(106) “Single family structure” for the purpose of compliance with Section 391-3-5-.25 (Lead & Copper), means a building constructed as a single-family residence that is currently used as either a residence or place of business.

(107) “Slow sand filtration” means a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.4 meters per hour) resulting in substantial particulate removal by physical and biological mechanisms.

(108) “Small water system” for the purpose of Section 391-3-5-.25 (Lead & Copper), means a water system that serves 3,300 persons or fewer.

(109) “Source of water supply” means the waters of the State from which raw water is taken into a public water system to be treated and/or distributed.

(110) “Source Water Assessment Plan” (SWAP) means a public report which documents a public drinking water system’s and other stakeholders’ reasonable efforts to ascertain the potential impact of natural or man-made pollutants, within a wellhead protection or watershed area, on the raw water source for the drinking water supply well or surface water intake.

(111) “Spring” means a source of water supply which naturally issues forth for the first time from rock or soil onto the land or into a body of water.

(112) “Standard sample” means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.

(113) “Storage tank” or “Tank” means any covered structure, such as clearwell, standpipe, reservoir, elevated tank, hydropneumatic tank or other storage facility or combination thereof used to store drinking water.

(114) “Subpart H systems” means public water systems using surface water or ground water under the direct influence of surface water as a source.

(115) “Supplier of water” or “Supplier” means any person who owns or operates a public water system.

(116) “Surface water” means and includes any and all rivers, streams, branches, creeks, ponds,

tributary streams, drainage basins, natural lakes, artificial reservoirs and impoundments and ground water under the direct influence of surface water.

(117) “SUVA” means Specific Ultraviolet Absorption at 254 nanometers (nm), an indicator of the humic content of water. It is a calculated parameter obtained by dividing a sample’s ultraviolet absorption at a wavelength of 254 nm by its concentration of dissolved organic carbon (DOC) (in mg/L).

(118) “System with a single service connection” means a system, which supplies drinking water to consumers via a single service line.

(119) “Total Organic Carbon” (TOC) means total organic carbon in mg/L measured using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures.

(120) “Total trihalomethanes” (TTHM) means the sum of the concentration in milligrams per liter of the trihalomethane compounds: trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform), rounded to two significant figures.

(121) “Too numerous to count” means that the total number of bacterial colonies exceed 200 on a 47-mm diameter membrane filter used for coliform detection.

(122) “Transient non-community water system” or “TNCWS” means a public water system that is not a community water system or a non-transient non-community water system. A transient non-community water system provides piped water for human consumption to at least 15 service connections or which regularly serves at least 25 persons at least 60 days a year.

(123) “Treatment Technique” means a required process intended to reduce the level of contaminants in drinking water.

(124) “Treatment technique requirement” means a requirement, which specifies for a contaminant, a specific treatment technique(s), which leads to a reduction in the level of such contaminant sufficient to comply with the requirements of these Rules.

(125) “Trihalomethane” (THM) means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

(126) “Two-stage lime softening” is a process in which chemical addition and hardness precipitation occur in each of two distinct unit clarification processes in series prior to filtration.

(127) “Unconfined aquifer” means an aquifer which is not separated from the land surface by a significant zone of low permeability and, therefore, is more susceptible to pollution from the activities of mankind. Wellhead Protection Areas for unconfined aquifers are larger than such areas for confined aquifers.

(128) “Uncovered finished water storage facility” means a tank, reservoir or other facility used to store water that will undergo no further treatment except residual disinfection and is open to the atmosphere.

(129) “Variance” means approval from the Division affording a public water system an extended time for compliance with a maximum contaminant level or treatment technique contained in a drinking water standard. A variance pertains to non-compliance with a maximum contaminant level due to the inability to meet the maximum contaminant level even when a

treatment method has been applied to a raw water source. The noncompliance is due to the quality of the raw water.

(130) “Virus” means a microorganism of fecal origin, which is infectious to humans by waterborne transmission.

(131) “Waterborne disease outbreak” means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment, as determined by the Division.

(132) “Waters” or “Waters of the State” means and includes any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and all other bodies of surface or underground water, natural or artificial, of this State.

(133) “Watershed Area” means the entire drainage basin upstream of a water intake located on a stream or lake.

(134) “Well” means any excavation that is cored, bored, drilled, jetted, dug, or otherwise constructed for the purpose of locating, testing, or withdrawing ground water.

(135) “Wellhead protection area” means an area of potential ground water recharge around a well which should be protected from surface and subsurface sources of manmade pollution in order to protect the quality of drinking water supplies.

(136) “Wholesale system” is a public water system that treats source water as necessary to produce finished water and then delivers some or all of that finished water to another public water system. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Designation of Department as Proper Authority to Administer and Enforce Rules” adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled “Definitions” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Amended:** F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule same title adopted. F. June 25, 1992; eff. July 15, 1992. **Repealed:** New Rule, same title, adopted. F. June 7, 1993; eff. June 27, 1993. **Repealed:** New Rule, same title, adopted. F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### **391-3-5-.03 Coverage. Amended.**

(1) **Applicability.**

These rules shall apply to all public water systems in the state, except that such rules shall not apply to a public water system which meets all the following criteria:

- (a) which consists only of distribution and storage facilities (and does not have any collection and treatment facilities);
- (b) which obtains all of its water from, but is not owned or operated by the owner or operator of a public water system to which such rules apply;
- (c) which does not sell water to any person; and
- (d) which is not a carrier which conveys passengers in interstate commerce.

Authority Ga. L. 1977, p. 351 *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Approved Required" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Coverage" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47.

### **391-3-5-.04 Approval Required. Amended.**

(1) **Approval.** No person shall erect, construct, or operate a public water system, nor undertake substantial enlargements, extensions, additions, modifications, renovations or repairs to any public water system, including storage, distribution, purification, or treatment components, without having first secured the Division's approval of: the source of water supply; the means and methods of treating, purifying, storing and distributing said water; and obtaining a permit to operate a public water system, except as provided by paragraph (2) of this Section. The approval of the Director must be obtained prior to the dividing of a public water system. For purposes of these rules "substantial" as used in this Section shall not include routine maintenance.

(2) **Limited Additions.** Governmentally owned public water systems and water authorities with qualified staff and meeting operating criteria developed by the Division may, with prior approval from the Division, approve limited additions to the water system. These additions will be limited to water distribution lines to serve subdivisions, apartment complexes and shopping centers. The review of other additional types of water distribution system additions and/or extensions may be delegated to those local governments that have demonstrated the capability for such reviews. All delegations shall be by written agreement. Additions approved by the water system must be reported annually in a format prescribed by the Division.

(3) **Local Governmental Approval.** Before a person may initiate construction of a new public water system or increase the capacity of an existing public water system, the person shall notify the local government in which the system is located and obtain the local government's approval for development of the project within its jurisdiction, prior to the submittal of the plans and specifications to the Division for approval. To the extent practicable, the person should avoid locating part or all of the new or expanded facility at a site which:

(a) is subject to a significant risk from earthquakes, floods, fires or other disasters which could cause a breakdown of the public water system or a portion thereof; or

(b) except for intake structures, is within the floodplain of a 100- year flood or is lower than any recorded high tide where appropriate records exist; or

(c) is on or in close proximity to an abandoned landfill or any other site used for waste disposal.

(4) **Trust Indenture.** The requirements of this paragraph shall apply to all non-governmentally owned community public water systems that have been issued a permit to operate by the Director or have applied for a permit before January 1, 1998. To assure the continuity of operation and maintenance of a non-governmentally owned and operated public water system when the water customers own the property being served by the supplier, the supplier of the water system shall file with the Division an executed Trust Indenture as prescribed by the Division and approved by the Director. The Trustee should preferably be a governmental authority. When a governmental authority is not available, the Trustee should be a property owners association organized to guarantee the operation and maintenance of the public water system. The association must be made up of members who are owners of properties served by the water system. The Articles of Incorporation and By-Laws of the association are to be submitted to the Division for review and/or approval. If a Trustee other than a unit of local government or property owners association is proposed, it will be necessary to determine that there is no identity-of-interest between the



owner or the system and the Trustee. For new or proposed systems, the legal documents shall be submitted with the plans and specifications. When the supplier is or desires to serve water to property not individually owned by the water consumer, a legal document assuring the continuity and maintenance of operation may not be required.

(5) **Connect to Local Governmental Public Water System.** Any person who desires to own or operate or who desires to commence the operation of a public water system shall first evaluate connecting to an existing local governmentally owned and operated public water system.

(6) **Approval for No Connection to Local Governmental Public Water System.** No approval of the plans and specifications for the development of a separate source of water supply or the construction of the water system will be made and no permit to operate will be issued until the owner has provided acceptable certification to the Division outlining the reasons why the system cannot connect to an existing local governmentally owned water system.

(7) **Pre-Operating Compliance Conditions.** Beginning January 1, 1998, the Division shall require compliance with the following conditions prior to the issuance of the initial permit to operate to a new privately owned community public water system:

(a) The owner shall provide written certification from the local government in which the system is located, that the local government is in concurrence with the development of the privately owned public water system. The certification shall be provided to the Division with the submission of the permit application and prior to or concurrently with the submission to the Division of the plans and specifications for construction of the proposed public water system.

(b) The owner must retain a Professional Engineer, registered in the State of Georgia, to prepare plans and specifications for approval by the Division for the construction of the proposed public water system, and the owner shall submit to the Division a certification from the engineer that the water system was constructed according to the plans and specifications approved by the Division. The public water system must be designed and constructed in accordance with the Division's "Minimum Standards for Public Water Systems", latest edition.

(c) The owner must submit to the Division for approval, a multiyear business plan which adequately demonstrates the water system's managerial and financial capacity to comply with all drinking water regulations in effect, or likely to be in effect. The business plan shall be prepared in accordance with the Division's "Minimum Standards for Public Water Systems", latest edition. The business plan shall be updated at intervals determined by the Director.

(d) The owner must provide an approved back-up water source, such as an additional well, capable of providing adequate water service if the primary source becomes nonfunctional. The requirement for an approved back-up water source may be waived by the Director for systems with less than 25 service connections.

(e) The owner must submit a recorded copy of a trust indenture or other legal agreement approved by the Division that has been executed with the local government in which the system is located, which assures the operation and maintenance of the public water system in compliance with the drinking water regulations established pursuant to the Act. If the local government is not available or agreeable to be the Trustee for a proposed privately owned

community public water system, written documentation from the local government certifying it has no desire to act in this capacity shall be provided to the Division. When the local government is not available or agreeable to be the Trustee, the owner shall obtain a Trustee acceptable to the Division and execute a trust indenture or other legal agreement approved by the Division. If a Trustee other than a local government or a property owners association is proposed, it will be necessary for the owner and the Trustee to certify in writing to the Division that there is no identity-of-interest between the owner of the system and the Trustee. For new or proposed community water systems, the recorded copies of the legal documents shall be submitted with the plans and specifications.

(8) **Treatment Products and Materials.** Products added directly to drinking water for its treatment or introduced indirectly into drinking water through its contact with surfaces of materials or products used for its treatment, storage, transmission, or distribution shall not adversely affect drinking water quality and public health.

(a) All treatment chemicals that come into contact with drinking water shall be certified for conformance with American National Standards Institute/National Sanitation Foundation Standard 60 (ANSI/NSF Standard 60) by an American National Standards Institute (ANSI) approved third-party certification program or laboratory.

(b) All products that come into contact with drinking water during its treatment, storage, transmission or distribution shall be certified for conformance with American National Standards Institute/ National Sanitation Foundation Standard 61 (ANSI/NSF Standard 61) by an American National Standards Institute (ANSI) approved third-party certification program or laboratory.

(9) **Infrastructure Security.** Public water systems must provide appropriate measures to protect and secure its critical drinking water supply infrastructure, including its water source, treatment, distribution, and any other component that is deemed pertinent to the safe operation and maintenance of the drinking water supply system.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “General Provisions” adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled “Approval Required” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule, same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005.

### **391-3-5-.05 Preparation and Submission of Engineering Reports, Plans and Specifications for Public Water Systems. Amended.**

(1) **General Provisions.** For any activity listed in paragraph (1) of Section 391-3-5-.04 an engineering report prepared by a professional engineer shall be submitted to the Division prior to the preparation of the final construction plans and specifications. Plans and Specifications shall be prepared by a professional engineer and submitted to the Division ~~in duplicate~~, accompanied by a letter of submittal identifying the project, owner and owner's address. No construction shall be initiated without prior approval from the Division. The engineering report and/or plans and specifications may be waived by the Director when information submitted by the supplier of water allows an engineering appraisal of the proposed activity to be made by the Division as follows:

- (a) For minor extensions, additions and/or modification to an existing governmentally owned public water systems which do not affect the normal operation of said water system.
- (b) For new public water systems which are classified as transient non-community water systems and for additions to existing transient non-community water systems.

(2) **Engineering Report.** The Engineering report shall contain a comprehensive description of the proposed activity including, but not limited to the following:

- (a) scope and description of proposed activity;
- (b) description of the proposed source of water supply, and data concerning the quality of the water;
- (c) pertinent information regarding present available sources of water supply, water treatment facilities, and existing public water systems;
- (d) sufficient maps, diagrams, charts, tables, calculations, basis of design data and graphs to make the reports readily understandable; all sheets shall be descriptively labeled and bound together or folded in a folder attached to the report;
- (e) operational and maintenance program description;
- (f) the known character and depth of the natural earth formations through and from which groundwater sources are to developed;
- (g) factors which may affect the quality of a source of water supply as determined by a survey of the water shed above the surface water intake or the surrounding area of a groundwater source.

(3) **Minimum Standards.** Beginning January 1, 1998, all new, additions, or extensions to public water systems shall be designed and constructed in accordance with the latest edition of the Division's "Minimum Standards for Public Water Systems".

(4) **Plans and Specifications.** Plans and specifications must be submitted ~~in duplicate~~ with additional copies as may be requested, and shall include, but not be limited to the following:

(a) map plans of the area to be served by the public water system, including, but not limited to: geographical location of the project, location of all existing and proposed streets in the area to be served, location of the source of water supply and the treatment facilities, and elevations of the principal parts of the public water system;

(b) detailed plans of the location and the construction of the storage tank, water mains, valves, fire hydrants and appurtenances;

(c) detailed plans of: the location and construction of the water treatment facilities including layout and relationship of the various units of the treatment facility; general piping, pumps, reservoirs, flow measuring devices, controls, points of chemical application, water sampling points, plant control laboratory, chemical feed equipment and chemical storage area. Sufficient dimensions and elevations shall be provided to make all parts of the readily understandable.

(d) the dimensions of the plan sheets must be within the following limits: twenty (20) to thirty (30) inches in height and twenty-four (24) to forty-two (42) inches in length, and shall be of sufficient clarity to be microfilmed;

(e) each plan sheet shall have printed thereon the name and location of the public water system, name and registration stamp of the professional engineer, scale, true and magnetic north, and shall be bound together and numbered consecutively;

(f) if the plans are solely for extensions to an existing public water system, only such information as is necessary for comprehension of the plans and construction of the project will be required;

(g) specifications will be separate from the plans and shall have printed thereon the name and location of the public water system, name and stamp of the professional engineer, and shall be bound together and numbered consecutively;

(h) specifications for the construction of the public water system shall accompany all plans for new or existing public water systems and shall describe the plans for the whole and for each unit or component of construction of the proposed public water system, including where necessary, testing and disinfection, painting, laboratory equipment, metering and recording devices and related material;

(i) the specifications may be omitted for extensions or additions to existing systems provided the proposed construction is in accordance with specifications previously approved and on file with the Division;

(j) manufacturers' brochures of specifications of materials are not acceptable for purposes of this requirement.

(5) **Deviations from Approved Plans.** Any significant deviation from the approved plans or specification must receive prior approval by the Division.

(6) **Installation According to Plans and Specifications.** Upon completion of the installation of the public water system or any modification, the owner must send to the Division a statement from the engineer who prepared the plans and specifications that the system, as installed, is in accordance with the approved plans and specifications.

(7) **Integrity of Treatment Units or Equipment.** Approval of plans and specifications by the Division does not include approval of the structural, electrical, mechanical, or design integrity of the treatment units or equipment.

(8) **Construction Without Division Approval.** At the discretion of the Director, an existing public water system that is constructed without obtaining prior approval from the Division may be considered acceptable by the Director, provided all of the following are accomplished to the satisfaction of the Division:

(a) An engineering evaluation of the constructed facilities is made by a professional engineer, licensed in the state of Georgia, to evaluate and certify conformance of the constructed facilities with all of the applicable sections of the rules in this Chapter. The engineer's certification, along with the "as-built" plans and specifications must be submitted to the Division for review and comment.

(b) All items, data, documentation and information required for source approvals and permit issuances for a public water system, as stated in the rules of this Chapter, must be submitted to the Division. Any additional and/or corrective action that is required by the Division for the owner or operator of the system to complete, prior to issuance of the permit, must be accomplished within ninety (90) days from the date of notification by the Division.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Source of Water Supply" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Preparations and Submission of Engineering Report, Plans and Specifications for Public Water System" adopted. Filed July 5, 1977; effective July 26 1977, as specified by Rule 391-3-5-.47. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997.

### **391-3-5-.06 Source of Water Supply. Amended.**

(1) **Source of Water Supply.** The source of water supply for all public water systems must have the approval of the Division and a valid ground water (Ground Water Use Act of 1972, as amended) or surface water (Georgia Water Quality Control Act of 1977, as amended) withdrawal permit where applicable. Beginning January 1, 1998, all owners and operators of new community public water systems with groundwater sources must provide an approved back-up water supply source, capable of providing adequate water service, if the primary source becomes nonfunctional. The Director may waive this requirement for systems with less than 25 service connections. Beginning December 1, 2009, any new ground water source must provide treatment that reliably achieves at least 4-log (99.99%) treatment of viruses before or at the first customer.

(a) All sources of water supply must be adequate as determined by the Division to meet anticipated growth. For human consumption in a community water system, one hundred (100) gallons per day for the projected population to be served at the end of the design period shall be considered adequate.

1. Beginning January 1, 1998, all new sources constructed for water supply systems, that are required to comply with the rules in this Chapter, shall be metered.

2. Beginning January 1, 1999, permitted water systems shall meter their existing water supply sources, when required by the Division or when the system's existing permit to operate a public water system is renewed or modified.

(b) The water must be of such quality that with reasonable treatment it will meet the Safe Drinking Water Rules of this Chapter.

(c) Before approval of a surface water source the following procedures and requirements must be met:

1. Raw water samples from the proposed source shall be collected by the supplier or designee and submitted to a certified laboratory for microbiological analysis for the period of time and frequency specified by the Division.

2. The supplier shall have the water from the proposed source analyzed for the physical, chemical and radiological parameters specified by the Division in a laboratory acceptable to the Division and shall furnish a copy of the results of the analysis to the Division.

3. For an impoundment source, allowance must be made for water losses including required releases, evaporation, seepage and siltation. Available stream flow and weather records must be used in estimating the yield of the source.

4. Bathing, water skiing, boating, fishing, or other activities in or upon any natural lake, artificial reservoir or impoundment used as a source of water supply must be prohibited, unless evidence is presented to the Division that the drinking water quality will not be adversely affected by these activities and prior written approval for such activity is obtained from the Division.

5. A Source Water Assessment Plan (SWAP) for the proposed surface water source intake must be developed in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*, as outlined in Section

391-3-5-.42 of this Chapter.

(d) Before approval of a ground water source, whether from a well or a spring, the following procedures and requirements must be met:

1. Raw water samples of the proposed source shall be collected by the supplier and submitted to a laboratory certified by the Division for microbiological analysis for a period of time and frequency specified by the Division.
2. The supplier shall, when directed by the Division, have the water from the proposed source analyzed for the physical, chemical and radiological parameters specified by the Division in a laboratory acceptable to the Division and shall furnish a copy of the results of the analysis to the Division.
3. Any drilled well previously used as a source of public water supply but inactive for three or more years and proposed to be reactivated as a source of supply shall be test pumped and meet the requirements of subparagraphs 1. and 2. of this paragraph.
4. A Source Water Assessment Plan (SWAP) for the proposed ground water source must be developed, as applicable, in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*, as outlined in Section 391-3-5-.42 of this Chapter.

(e) The Division may direct that a ground water source be evaluated for the influence of surface water. Within eighteen (18) months of Division notification that a ground water source is under the direct influence of surface water, the supplier shall install filtration treatment and may be required by the Division to install additional treatment in accordance with subparagraph (a) of Rule 391-3-5-.09.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Engineering Report" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Source of Water Supply" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by R. 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Amended:** F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. May 27, 2009; eff. June 16, 2009.



### **391-3-5-.07 Wells. Amended.**

(1) **Approval.** No person shall construct a well as a source of water supply for a public water system without having first obtained approval from the Division. This requirement may be waived by the Director during emergency situations. Any well that is constructed and does not meet the rules of this Chapter shall not later be used as a drinking water source for a public water system.

(2) **Prohibited Wells.** Dug, bored, or jetted wells are prohibited for all new public water systems.

(3) **Protection from Contamination.** Each well must be protected from contamination by surface waters and other sources of contamination. The location of wells must be in compliance with the following criteria:

(a) generally at the highest point, and as far removed, and in a direction opposite to the ground water flow from any known or probable source of contamination as the general layout of the premises and surroundings will permit;

(b) not less than fifty (50) feet from a septic tank;

(c) not less than one hundred (100) feet away from a septic tank absorption field;

(d) not less than ten (10) feet away from a sewer;

(e) not less than one thousand (1,000) feet away from a solid waste disposal site and not in a direction where ground water flow from the site may be intercepted by the well;

(f) as far removed as possible from all open abandoned wells;

(g) in areas of sink holes, a survey may be required by the Division to determine the most suitable well location if there is insufficient information available to make such determination.

(h) no well shall be located in the flood plain unless adequate protection is provided to prevent submergence of the well casing, pumps and appurtenances;

(i) variation of the distance from areas of known or probable sources of contamination may be permitted or required by the Division due to topography, local soil or geologic conditions.

(4) **Fill, Plug and Seal.** Whenever a bore hole of any depth is excavated for, but not used as a source of water supply it shall be the supplier's responsibility to fill, plug and seal the hole within thirty (30) days of the excavation in a manner approved by the Division to restore as nearly as possible the natural earth condition existing before the hole was excavated and to protect against contamination of the ground water. This paragraph shall not apply where some other use is made of the ground water from the well hole.

(5) **Well Construction Standards.** All wells must be constructed as hereinafter provided, however, deviations from these rules may be permitted or required by the Division due to the variable conditions of the subsurface and ground water quality in a specific area.

(a) Drilling fluids must be from an uncontaminated source or must be disinfected.

(b) All permanent casing, liners, screens and other manufactured material used in the well installation must be new and adequate to protect the well against entrance of contaminants during



the expected life of the well. All casing and liner pipe joints shall be water tight the entire length in drilled wells.

1. Steel pipe well casing shall conform to American Society for Testing and Materials (ASTM) Specification A 120 or A 53 American Petroleum Institute (API) Specification 5L or 5LS or equal standard and meet the following minimum wall thickness unless otherwise approved by the Division.

| <b>Nominal Casing Diameter<br/>(inches)</b> | <b>Minimum Wall Thickness<br/>(inches)</b> |
|---|--|
| 4   | 0.188                                      |
| 5   | 0.188                                      |
| 6   | 0.188                                      |
| 8   | 0.219                                      |
| 10  | 0.250                                      |
| 12  | 0.250                                      |
| 14  | 0.312                                      |
| 16  | 0.312                                      |
| 18  | 0.375                                      |
| 20  | 0.375                                      |
| 24  | 0.375                                      |

2. The use of plastic well casing and screens must be approved by the Division prior to well installation. The well casing and couplings shall meet the requirements of the ASTM Standard F 480 or equal standard and the National Sanitation Foundation for use with potable water. When approved for use by Division, plastic well casing shall conform to the following minimum wall thickness unless otherwise approved by the Division.

| <b>Nominal Casing Diameter<br/>(inches)</b> | <b>Minimum Wall Thickness<br/>(inches)</b> |
|---|--|
| 4   | 0.265                                      |
| 4.5   | 0.291                                      |
| 6   | 0.390                                      |
| 8   | 0.508                                      |
| 10  | 0.632                                      |
| 12  | 0.750                                      |

Plastic well casing and screen shall not extend to a depth of greater than 300 feet below the ground surface.

(c) The outer, permanent, protective casing shall extend at least five (5) feet into the first solid, unweathered or impervious subsurface rock strata encountered, and shall have a minimum length of twenty-five (25) feet from the ground surface into a well excavated into water-bearing formations in crystalline rocks and fifty (50) feet in a well excavated into sedimentary water-bearing formations. The outer, permanent, protective casing shall be cement grouted its entire length with a cement slurry consisting of not more than six (6) gallons of water to one cubic foot cement, plus standard additives, when necessary, to facilitate placing or setting and shall be

placed under pressure from the bottom of the annular space to be grouted upward until the grout is extruded at the earth's surface. The wall thickness of the cement grout surrounding the outer, permanent, protective casing shall be not less than one and one-half (1-1/2) inches at any point. Subsurface well construction shall cease for at least twenty-four (24) hours after grouting. Other grouting materials for sealing the annular space may be used upon the approval of the Division prior to well construction.

(d) Any ground water of unacceptable quality encountered during the well construction must be sealed off.

(e) The gravel for gravel-packed wells must be washed, free of organic matter, and composed of well rounded particles.

(6) **Stoppage During Construction.** During the periods of stoppage of the well construction and when the site is unattended, the drilling contractor must have the well opening securely covered to prevent tampering and possible contamination.

(7) **Sanitary Conditions.** During the well construction, the premises, construction material, tools and equipment must be maintained in a sanitary manner to prevent contamination of the well by the person excavating the well.

(8) **Proper Well Development.** Every well must be properly developed, disinfected, and pump tested by the drilling contractor. The well must be test pumped at not less than the desired yield for a period of at least twenty-four (24) hours and shall continue for at least four (4) hours after the pumping level has stabilized. The static water level, drawdown and pumping water level must be measured.

(9) **Disinfection of the Well.**

(a) The well must be disinfected prior to the pumping test by the introduction of a chlorine solution into the well under sufficient pressure to overcome the natural flow pressures of all developed water-bearing zones, and in sufficient quantity to produce a minimum chlorine residual of fifty (50) parts per million in six (6) hours after such application.

(b) After disinfection, the well must be pumped until no trace of chlorine remains in the water, and water samples taken for microbiological analysis. No water may be furnished for human consumption until samples of water are collected by the supplier, and submitted to the Division for microbiological examination, and the quality of the water approved by the Division. If the water samples submitted are found to be unsatisfactory, the disinfection procedure must be repeated as required by the Division.

(c) The permanent pump and pumping equipment shall be disinfected with a chlorine solution prior to being placed into service.

(10) **Licensed Water Well Contractor.** The person constructing the well shall be a licensed water well contractor in the State of Georgia in accordance with the provisions of the Water Well Standards Act of 1985 (O.C.G.A. § 12-5-120, et. seq.). The contractor must maintain accurate driller logs, material setting and grouting data, complete results of the pump test, including water level measurements, and must furnish a signed copy of the results to the owner and to the Division on forms provided by the Division.

(11) **Installation Standards.** A well used as a source of water supply must include the following:

(a) A concrete slab with a minimum thickness of six (6) inches shall be constructed around the well casing and shall extend at least two (2) feet in all directions, and slope away, from the casing.

(b) The well casing shall extend at least twelve (12) inches above the concrete slab of the floor.

(c) For submersible pump installations, the well casing shall be provided with a sealed cover plate and, when required by the Division, vented by a screened riser pipe so that the screened opening terminated downward at least twelve (12) inches above the top of the casing or ground level.

(d) For turbine pump installations, a concrete block to support the pump motor shall be constructed around the outer well casing and shall extend at least twelve (12) inches above the concrete slab, and:

1. the outer casing shall extend at least one (1) inch above the pump motor block;
2. the well head and pump base shall be sealed to prevent seepage and the casing shall be vented by a screened riser pipe so that the screen opening terminates downward and above any point of back flow of contaminants into the well; and
3. oil lubricated vertical turbine pumps shall be lubricated with an acceptable turbine oil as prescribed by the pump manufacturer.

(e) A raw water sampling tap shall be provided on the well discharge pipe.

(f) An access port of not less than five-eighths (5/8) inch in diameter, with screw cap, for water level measurements; a deep well air line and gage may also be used in conjunction with the access port.

(12) **Deepening Existing Wells.** Existing wells that are deepened shall be regarded by the Division as a development of a new ground water source and must meet the requirements for approval.

(13) **Rehabilitating Existing Wells.** When an existing well is rehabilitated or reworked, the well shall be disinfected according to procedures described in this Section.

(14) **Infrastructure Security.** The pumping and water treatment equipment shall be protected from unauthorized entry and use by an enclosed shelter or enclosed by a fence. In addition, the water treatment equipment shall be enclosed in a weather proof shelter.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "General Plan Map Requirements" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Wells" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-47. **Amended:** Filed July 15, 1983; effective August 4, 1983; **Amended:** F. May 12, 1989; eff. Jun. 1, 1989. **Amended:** F. Sept. 26, 1997; eff. Oct 16, 1997.

### **391-3-5-.08 Springs. Amended.**

- (1) **Enclosure Required.** A spring to be used as a source of water supply for a public water system must be protected by an enclosed structure. The walls of the structure must extend down to bedrock, or into the soil sufficiently to provide for a proper foundation to prevent surface water infiltration.
- (2) **Runoff Diversion.** All surface water runoff must be diverted from the spring.
- (3) **Surface Water Entry.** The spring must be protected from any entry of surface water.
- (4) **Overflow.** The overflow from the spring's enclosed structure must be designed to prevent entrance of contaminants or animals.
- (5) **Facility Enclosure.** The pumping and water treatment facilities must be enclosed in shelters that are of weather and vandal-proof construction.
- (6) **Infrastructure Security.** The spring area must be secured as specified by the Division to prevent unauthorized entry.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Plans and Specifications" was filed on September 6, 1973; effective September 26, 1973; **Amended:** Rule repealed and a new Rule entitled "Springs" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-5-.47.

### **391-3-5-.09 Water Treatment Facilities. Amended**

(1) **Water Treatment Facility Requirements.** All means and methods of treating, purifying and storing water for public water systems must be approved by the Division. The Division shall consider, but not be limited to, the following requirements when evaluating water treatment facilities for a public water system:

(a) Surface water treatment plants and ground water treatment plants must be of such design and capacity to provide for the required treatment of the raw water so that the drinking water will comply with the rules of this Chapter. In addition, surface water treatment plants and plants treating ground water under the influence of surface water must provide facilities for filtration of the raw water, and must provide, when required by the Division, flocculation and sedimentation of the raw water and continuous coagulation or application of other filter aids for optimization of filter performance.

1. Water treatment plants processing surface water sources shall include, but not be limited to, means for rapid mixing, flocculation, sedimentation, filtration and disinfection. The treatment plant shall be of such construction to allow units to be taken out of service without disrupting operation and required treatment processes.

2. Based upon the quality of raw water, the quality desired in the finished water and other factors, multiple-stage treatment facilities and/or presedimentation facilities, shall be provided when required by the Division.

(b) The Division may accept new and alternate treatment means, methods and technologies, provided the following are demonstrated to the satisfaction of the Division:

1. the treatment method has been thoroughly tested in full scale comparable installations by an acceptable third party, in accordance with protocol and standards acceptable to the Division.

2. has been thoroughly tested in a pilot plant approved by the Division, by an acceptable third party, in accordance with protocol and standards acceptable to the Division, and operated for a period that will demonstrate the effectiveness and reliability of the proposed treatment system during changes in seasonal, and climatic conditions.

3. compliance with the treatment technique requirements of paragraph (p) of this section.

(c) Water from a spring shall be disinfected and retained in a detention tank for a minimum of thirty (30) minutes unless otherwise approved by the Division; and such additional water treatment as the Division may require for the drinking water to comply with the rules of this Chapter.

(d) Chemical feed equipment shall be of such design and capacity to accurately supply, at all times, the treatment chemicals required.

(e) Chlorination equipment may be solution-feed-gas-type but must have sufficient feed capacity for the treatment of the raw water and drinking water to maintain a chlorine residual in the drinking water as required by paragraph (2) of Section 391-3-5-.14.

(f) Gas chlorination equipment and cylinders must be housed in a separate room or facility provided for that purpose, separated from the other treatment facilities and chemicals. The following shall be required:

1. Chlorine cylinders stored or used outdoors must be protected from the direct rays of the sun by shading and additionally protected to prevent unauthorized tampering.
2. Chlorine cylinders must be secured from accidental tipping or movement.
3. A chlorine gas mask or self-contained gas mask (air pack) must be provided outside the gas chlorine room or facility or otherwise made available and be readily accessible to the operator for repairs or emergencies.
4. Forced air ventilation, placed near floor level and near the cylinders, must be provided to exhaust any leaking chlorine gas from a confined room or facility. Exhaust fumes must be directed away from the entrance to the room or facility. The fan must be activated by an outside switch or start automatically when the door is opened.
5. A small bottle of fresh ammonia solution shall be provided for testing for chlorine gas leaks.

(g) Hypochlorite feeders are not required to be placed in a separate room or facility.

(h) Other means of disinfection such as iodine, ultra-violet light, or ozone treatment may be approved by the Division.

(i) There must be sufficient space for chemical storage.

(j) Fluoridation equipment and chemicals, where used, must be placed in a separate room or facility provided for that purpose, unless otherwise approved by the Division.

(k) Each water treatment facility must have, as may be required by the Division, a laboratory and laboratory equipment to perform daily tests pertinent to the proper control of the required water treatment operations.

(l) Water sampling taps shall be placed in the water treatment facility, as may be required by the Division, for obtaining water samples to perform laboratory tests to ensure the proper functioning of the water treatment facility.

(m) A metering device to measure the flow of raw water and/or treated water is required for all surface water treatment plants and all new wells serving public water systems.

(n) Water from a well used as a source of water supply shall be disinfected unless otherwise approved by the Division and such additional water treatment as the Division may require for the drinking water to comply with the rules of this Chapter.

(o) Chemical water treatment equipment must be installed in such a manner to prevent back-siphonage or overdosing of the chemicals to the water supply.

(p) Each public water system with a surface water source or a ground water source under the direct influence of surface water must provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:

1. At least 99.9 percent (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water

runoff and a point downstream before or at the first customer; and

2. At least 99.99 percent (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.

3. At least 99 percent (2-log) removal of *Cryptosporidium* between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer for filtered systems. This treatment technique requirement is applicable to Subpart H systems serving at least 10,000 people, beginning January 1, 2002, and to systems serving fewer than 10,000 people, beginning January 14, 2005.

(q) Effective June 29, 1993, ~~for~~ each public water system with a surface water source or a ground water source under the direct influence of surface water, source shall conduct continuous monitoring of the residual disinfectant concentration of the water entering the distribution system. The continuous online chlorine analyzer shall be calibrated in accordance with EPA Method 334.0. Systems must record the results of the residual disinfectant monitoring every fifteen (15) minutes ~~must be monitored continuously~~, and record and report the lowest value ~~must be recorded~~ each day, except if there is a failure in the continuous monitoring equipment, grab sampling every 4 hours may be conducted in lieu of continuous monitoring, but for no more than 5 working days following the failure of the equipment, and systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day prescribed below:

| System Size by Population                    | Samples per day <sup>1</sup> |
|--|------------------------------|
| <del>&lt; 500</del> <u>&lt; 500 or fewer</u> | 1                            |
| 501 to 1,000                                 | 2                            |
| 1,001 to 2,500                               | 3                            |
| 2,501 to 3,300                               | 4                            |

Note: <sup>1</sup> The day's samples cannot be taken at the same time. The sampling intervals are subject to Division review and approval.

The residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours. If at any time the residual disinfectant concentration falls below 0.2 mg/L in a system using grab sampling in lieu of continuous monitoring, the system must take a grab sample every 4 hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.

1. Maintenance of the disinfectant residual in the distribution system must conform to paragraph (2) of Rule 391-3-5-.14. The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, except that the Division may allow a public water system which uses both a surface water source or a ground water source under the direct influence of surface water, and a ground water source to take disinfectant residual samples at points other than the total coliform sampling points if the Division determines that such points are more representative of treated (disinfected) water quality within the distribution system.

(r) Filter backwash recycling requirement: 40 CFR § 141.76 is hereby incorporated by reference. All subpart H systems that employ conventional filtration or direct filtration

treatment and that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes must meet the requirements in paragraphs (b), (c) and (d) of 40 CFR § 141.76.

1. Treatment technique requirement. Any system that recycles spent filter backwash water, thickener supernatant, or liquids from dewatering processes must return these flows through the processes of a system's existing conventional or direct filtration system as defined in 40 CFR § 141.2 or at an alternate location approved by the Division by June 8, 2004. If capital improvements are required to modify the recycle location to meet this requirement, all capital improvements must be completed no later than June 8, 2006.
2. Record keeping. The system must collect and retain on file recycle flow information specified in paragraphs (d)(1) through (6) or 40 CFR § 141.76 for review and evaluation by the Division beginning June 8, 2004.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Deviation from Approved Plans and Specifications" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Water Treatment Facilities" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Amended:** F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.



### **391-3-5-.10 Distribution System. Amended.**

- (1) **Design for Flow and Pressure.** The water distribution system must be designed and the water lines sufficiently sized to furnish at all times the instantaneous demand flow of water required and to maintain at all times a pressure of twenty (20) pounds per square inch at each service connection in the distribution system under all conditions of flow.
- (2) **Looped Lines.** Distribution lines must be looped whenever possible.
- (3) **Metering.** Beginning January 1, 1998, all new services connected to community and non-transient non-community water systems shall be metered, unless specifically directed otherwise by the Director. For existing water systems, metering of existing services shall be performed when required by the Director.
- (4) **Prevent Contamination.** It is the responsibility of the supplier of water to maintain the distribution system to prevent contamination of the drinking water and to provide the required pressure and flow at all times.
- (5) **Minimum Pipe Size.** The minimum size water main shall be two (2) inches in nominal diameter. The Division may allow for a departure in sizing provided it is justified by hydraulic analysis and future water use of the area to be served and such departures will be considered only in special circumstances.
- (6) **Lines in Contaminated Areas.** Water lines must not be installed in contaminated areas such as sanitary landfill or dump areas.
- (7) **Sewer Line Contact.** No water main or pipe shall pass through or come into contact with any part of a sewer or sewer manhole.
- (8) **Minimum Cover.** The minimum recommended cover for water distribution mains or lines shall be twenty-four (24) inches.
- (9) **Installation Requirements.** All newly installed distribution mains and appurtenances shall be flushed, pressure tested and disinfected.
- (10) **Lead Free.** Any pipe, solder or flux which is used in the installation or repair of any public water distribution system shall be lead free with not more than 8.0% lead in pipes and fittings; and not more than 0.2% lead in solders and flux. This does not apply to leaded joints necessary for the repair of cast iron pipes.
- (11) **Notification of Lead-containing Service Lines.** Suppliers of water shall identify and report to the Division any lead pipe and/or lead service connections known to be installed in the distribution system. Suppliers ~~should encourage adoption of~~ shall adopt a local plumbing code that requires use of lead free solder for plumbing.
- (12) **Infrastructure Security.** Public water distribution network and its related components must be protected to prevent unauthorized tampering.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Water Treatment Facilities" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Distribution System" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.

### **391-3-5-.11 Storage Tanks. Amended.**

- (1) **Tank Requirements.** All storage tanks must be provided with a permanent cover, screened vents and openings, overflow piping and means of draining.
- (2) **Interior Paint.** The paint used for the interior of a storage tank must be approved by the Division.
- (3) **Approval for Repairs.** Repairs and renovations to existing storage tanks that may affect the quality of the drinking water must receive approval from the Division prior to starting such work. Upon completion of such work the storage tank must be disinfected according to Rule 391-3-5-.12.
- (4) **Contamination Prevention.** It is the owner's responsibility to maintain the storage tank or tanks to prevent contamination of the drinking water by infiltration or other means.
- (5) **Buried Tanks.** Buried or semi-buried storage tanks must have the ground surface sloping away from the facility.
- (6) **Pressure Tanks.** Hydropneumatic pressure tanks must be provided with devices for maintaining the air-water volume at the designed water level and working pressures.
- (7) **Pre-Service Requirements.** All new storage tanks must be cleaned, tested for leakage, and must be disinfected according to Rule 391-3-5-.12.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original rule entitled "Wells" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Storage Tanks" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47.

### **391-3-5-.12 Disinfection. Amended.**

(1) **Disinfection Requirements.** All newly constructed public water systems including extensions, additions, modifications, or repairs to existing public water systems including water mains, storage tanks, treatment plants, wells, or any other pipes or parts of the public water system which may affect the quality of the drinking water which is delivered, treated or stored, must be disinfected before being placed into service by the supplier or water by one of the following methods:

(a) Water mains. Any new or repaired water main must be disinfected in accordance with the latest edition of American Water Works Association (AWWA) Standard C651.

(b) Storage facilities. Any new or repaired water storage facility must be disinfected in accordance with the latest edition of American Water Works Association (AWWA) Standard C652.

(c) Water treatment plants. Any new or repaired portion of a water treatment plant must be disinfected in accordance with the latest edition of American Water Works Association (AWWA) Standard C653.

(d) Wells. Any new well or existing well that has been rehabilitated or reworked must be disinfected in accordance with the latest edition of American Water Works Association (AWWA) Standard C654.

(e) Any system required to develop a disinfection profile in accordance with the provisions specified in sections (8)(c)(i) and (ii) of Rule 391-3-5-.20 and that decides to make a significant change to its disinfection practice must consult with the Division prior to making such change. Significant changes to disinfection practice are: changes to the point of disinfection; changes to the disinfectant(s) used in the treatment plant; changes to the disinfection process; and, any other modification identified by the Division. Any system that is modifying its disinfection practice must calculate its disinfection benchmark as specified in section (8)(c)(iii) of Rule 391-3-5-.20.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Springs” adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled “Disinfection” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Amended:** F. May 12, 1989; eff. June 1, 1989. **Repealed:** New Rule of same title adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000.

### **391-3-5-.13 Cross-Connections. Amended.**

- (1) **Prohibitions.** No person shall construct, maintain or operate a physical arrangement whereby a public water system is or may be connected directly or indirectly with a non-potable water system or non-permitted water system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, liquid, gasses, sewage or other waste of unknown or unsafe quality, which may be capable of imparting contamination to the public water system as the results of backflow, bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or other temporary, permanent or potential connections through which or because of which back-flow or back-siphonage could or would occur.
- (2) **Contamination Prevention.** A supplier of water or any person having possession or control of facilities which may cause the contamination of a public water system has the responsibility to prevent water from unapproved sources or any contaminants from entering the public water system by such physical arrangements cited in paragraph (1) of this Section.
- (3) **Purchasers and Resellers.** Any person connecting to and purchasing water from a public water system and reselling it to others is considered a supplier of the water so purchased as well as a consumer, and is also responsible for the quality of such water.
- (4) **Cross-Connection Control Program.** A supplier shall, when requested by the Division, develop a control program for the elimination and prevention of all cross-connections. A written plan for the program shall be submitted to the Division for review and approval within two (2) years or less in accordance with a written request by the Division. When the plan is approved, the owner shall implement the program immediately.
- (5) **Conformance with National Standards.** The procedures for back-flow and back-siphonage prevention and cross-connection control shall conform to those recommended by the American Water Works Association, Manual 14, and the U.S. Environmental Protection Agency Cross-Connection Manual.
- (6) **Backflow Prevention Assemblies Field Testing.** The supplier shall require that all backflow prevention assemblies installed pursuant to this section be field tested following installation, repair, or relocation and at least annually thereafter.
- (7) **Certified Backflow Testing.** After October 1, 2004, all required field testing shall be performed by persons who are certified in the testing of backflow prevention assemblies by the Georgia Statewide Backflow Prevention Assembly Certification Program, as approved by the Division, the American Backflow Prevention Association (ABPA), the American Society of Sanitary Engineers (ASSE) or the University of Florida TREEO Center.
- (8) **Gauge Accuracy.** Gauges used in the testing of backflow prevention assemblies shall be tested for accuracy annually in accordance with the University of Southern California Manual of Cross-Connection Control or American Water Works Association Manual 14. Public water systems shall require testers to include test gauge serial numbers on “Test and Maintenance” report forms and ensure testers have gauges tested for accuracy.
- (9) **Record Maintenance.** Each water supplier shall maintain records of the following for a minimum of three (3) years:

- (a) Most current hazard assessment, conducted pursuant to Section 608 of the Georgia State Minimum Standard Plumbing Code (International Plumbing Code);
- (b) Locations and types of backflow protection and associated hazards;
- (c) Results of all backflow prevention assembly field testing and air gap inspections; and
- (d) Repairs made to, or replacement or relocation of, backflow protection.
- (e) Summaries of the information in section (9)(a) - (d) shall be available to the Division on request for a minimum of three years.
- (f) The supplier shall ensure that backflow prevention assemblies that fail the field test are repaired or replaced within thirty (30) days.
- (g) The supplier shall ensure that bypass piping installed around any approved backflow preventer is equipped with a backflow preventer providing an equivalent level of protection.
- (h) Reduced pressure principal backflow prevention assemblies shall not be installed in any location subject to possible flooding. This includes pits and/or vaults which are not provided with a gravity drain to the ground's surface that is capable of exceeding the discharge rate of the relief valve.
- (i) Each supplier shall notify the Division of any known incident of backflow into the public water system as soon as possible but no later than the end of the next business day upon discovery of the incident. If requested to do so by the Division, the supplier shall submit a written report of the incident describing the nature and severity of the backflow, the actions taken by the water supplier in response to the incident, and the action plan intended to prevent such incidents in the future.
- (j) The supplier of water shall deny or discontinue water service to a commercial consumer if a required backflow prevention device is not installed or properly maintained. Water service shall not be restored to such premises until the deficiencies have been corrected or eliminated to the satisfaction of the supplier and the Division. Residential connections shall be maintained in accordance with the Georgia State Minimum Standard Plumbing Code (International Plumbing Code).

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Storage Tanks and Distribution System" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Cross Connections" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** Filed July 15, 1983; effective August 4, 1983. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005.

### **391-3-5-.14 Operation. Amended.**

(1) **Compliance with Safe Drinking Water Rules.** A supplier of water shall treat the water supplied so the water complies with the Safe Drinking Water rules of this Chapter. Public water systems shall not use bottled water to achieve compliance with a maximum contaminant level (MCL). Bottled water may be used on a temporary basis to avoid unreasonable risk to health. Community and non-transient non-community water systems shall not use point-of-use or point-of-entry treatment units to achieve compliance with an MCL or a treatment technique requirement.

(2) **Continuous Chlorination.** The supplier of water must continuously chlorinate the water to maintain a detectable residual of free chlorine in all parts of the distribution system in the recommended amount of at least 0.2 parts per million, and such additional amounts as may be determined necessary by the Division, unless other means of disinfection have been approved by the Director. If the residual disinfectant concentration is measured by approved analytical methods and not detected, the supplier may, upon approval by the Division, determine and report detectability by the use of heterotrophic plate count measurements as required by 40 CFR § 141.72 (1989) and other applicable paragraphs of 40 CFR Part 141.

(3) **Disinfection Waiver.** After consideration of the microbiological quality of the source of water supply, the local geology, the population served and the extent of the water distribution system, the disinfection treatment may be waived by the Director.

(4) **Fluoridation Requirements.** The supplier of water of a fluoridated public water system shall daily sample and analyze the fluoride concentration of the drinking water. Daily records of the analytical results shall be kept on forms provided by the Division or on forms acceptable to the Division and a copy of the result submitted to the Division in accordance with Rule 391- 3-5-.30.

(5) **Surface Water Source Certified Operator.** A supplier having a surface water source must have a certified operator on duty **and onsite** at all times when the water plant is in operation. A supplier having a groundwater source under the direct influence of surface water must have a certified operator on duty **and onsite** at all times when the water plant is in operation, unless otherwise approved by the Division, depending upon the complexity of the water treatment processes, quality of the water sources, and the size of the system.

(6) **Groundwater Source Certified Operator.** A supplier having only ground water sources must have a certified operator to comply with the classification prescribed in Section 391-3-5-.39 of this Chapter. The Director may find that the availability of a certified operator to a system with only groundwater sources is sufficient to comply with Section 391-3-5-.39 of this Chapter and may so allow, but only if the Director determines that the complexity of the water treatment processes, quality of the water sources, and the size of the system so warrant.

(7) **Record Maintenance.** The supplier of water shall maintain daily records of the operation of the water treatment facility and water distribution system as may be required by the Division including the amount of water treated daily, results of the performance of daily tests pertinent to the control of the water treatment processes, disinfectant residuals, and tests performed in the water distribution system. Daily records shall be kept by the supplier on forms furnished by the Division and a copy of the record submitted to the Division in accordance with Rule 391-3-5-.30.

Based on the complexity of the water treatment process, the quality of the water sources, and the size of the system, the Director may establish less frequent maintenance of record requirements for small groundwater systems.

(8) **Microbiological Laboratory.** All community water systems which have a surface water source with water treatment facilities and those public water systems having only a ground water source or only a water distribution system and serving a population of more than 12,900 must have, or have available, the services of a microbiological laboratory certified by the Division to perform the microbiological tests necessary for compliance with the maximum microbiological contaminant levels. The laboratory and equipment must be kept in good working order at all times.

(9) **Summary Microbiological Analytical Results.** A supplier of water required to have, or have available, a microbiological laboratory under paragraph (8) of Section 391-3-5-.14 shall collect and analyze drinking water samples in accordance with the minimum number specified in paragraph (1) of Section 391-3-5-.23 and such additional samples as may be required by the Director. The supplier shall furnish the Division, on forms provided by the Division, a monthly microbiological summary of the number of samples analyzed and the results in accordance with Section 391-3-5-.30.

(10) **Routine Microbiological Samples.** The supplier of water shall collect routine drinking water samples for microbiological analysis as follows:

(a) the minimum number of routine samples per month shall be in accordance with paragraph (1) of Section 391-3-5-.23;

(b) at the treatment plant and at various points in the distribution system which are representative of the drinking water when three or more samples per month are required; or

(c) at various points in the distribution system which are representative of the drinking water when only one or two samples per month are required.

(11) **Certified Laboratories.** For the purposes of determining compliance with Rules 391- 3-5-.18, .19, .20, .21, .22, .23, .24, .25, .26, .27 samples may be considered only if they have been analyzed by a laboratory certified by the Division, except that measurements used solely for operational control, including but not limited to turbidity, free chlorine residual, fluoride residual, temperature, pH, conductivity, calcium, alkalinity, orthophosphate, chloramines, chlorine dioxide, chlorite and silica may be performed by any person acceptable to the Division.

(12) **Operations and Maintenance Plan.** All public surface water and ground water under the direct influence of surface water systems shall develop an Operations and Maintenance Plan (O & M Plan). The plan shall be prepared in accordance with the Division's "*Operation and Maintenance Plan — Guidance Manual for Preparing Public Water Supply System O & M Plans*", latest edition. The plan shall be updated at intervals determined by the Director. For public groundwater systems and systems that are using alternate treatment technologies, development of such a plan may be required by the Director when the complexity of the water treatment processes, quality of the water sources, and the size of the system so warrant.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Disinfection” adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled “Operation” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Amended:** F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.



### **391-3-5-.15 Record Maintenance. Amended.**

(1) **Requirements for Records and Retention.** Any supplier of water shall retain on its premises or at a convenient location near its premises, the following records:

(a) Records of microbiological analyses and turbidity analyses made pursuant to these rules shall be kept for not less than five (5) years. Records of chemical analyses made pursuant to these rules shall be kept for not less than ten (10) years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

1. the date, place and time of sampling and the name of the person who collected the sample;
2. identification of the sample as to whether it was routine distribution system sample, check sample, raw or drinking water sample or other special purpose sample;
3. date of analysis;
4. laboratory and person responsible for performing analysis;
5. the analytical technique/method used; and
6. the results of the analysis.

(b) Records of action taken by the system to correct violations of these rules shall be kept for a period not less than three (3) years after the last action taken with respect to the particular violation involved.

(c) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by any local, state or federal agency, shall be kept for a period not less than ten (10) years after completion of the sanitary survey involved.

(d) Records concerning a variance or exemption granted to the system shall be kept for a period ending not less than five (5) years following the expiration of such variance or exemption.

(e) Any system subject to the lead and copper requirements shall retain on its premises original records of all sampling data, analyses, reports, surveys, letters, evaluations, schedules, Division determinations, and any other information required by Section 391-3- 5-.25 or .30. Each water system shall retain the records required by this rule for no fewer than twelve (12) years.

(f) Systems must maintain the results of individual filter monitoring taken under Rule 391-3-5-.20(9)(c) and (10)(h) for at least three (3) years.

(g) Any system subject to disinfection profiling and benchmarking shall keep the results of the profile and the benchmark (including raw data and analysis) indefinitely.

(h) Copies of monitoring plans developed pursuant to this part shall be kept for the same period of time as the records of analyses taken under the plan are required to be kept under paragraph (1)(a) of this section, except as specified elsewhere in this part.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Operation" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Record Maintenance" adopted. F. July 5, 1977; eff. July 26, 1977, as

specified by Rule 391-3-5-.47. **Amended:** F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### **391-3-5-.16 Fluoridation. Amended.**

All potable water supplies in incorporated communities and counties lying wholly within this State must be fluoridated in compliance with the Act.

Authority Ga. L. 1973, p. 148, *et. seq.*, Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Certificate of Approval" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and new Rule entitled "Fluoridation" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** Rule repealed and a new Rule of the same title adopted. Filed July 15, 1983; effective August 4, 1983.

### **391-3-5-.17 Permit to Operate a Public Water System. Amended.**

(1) **Permit Required from the Director.** Any person who owns or operates a public water system or who desires to commence operation of a public water system shall obtain a permit from the Director.

(2) **Permit Application.** Applicants for permits under Section 7 of the Act shall be on forms as may be prescribed and furnished by the Division. The permit application form shall be signed by the owner or their duly authorized agent. For privately owned community public water systems, the trustee of the water system must be clearly identified on the permit application.

(3) **Additional Information.** Any applicant for a permit whose application is pending final consideration shall upon the request of the Director provide such additional information as may be necessary to enable the Director to properly pass upon the application. Such additional information may include, but not be limited to, complete engineering report, quantitative and qualitative determinations of the source of water supply and drinking water, plans, specifications, maps, measurements, records, documentation to demonstrate system's financial, technical and managerial capacity with respect to drinking water regulations in effect or likely to be in effect, source water assessments and protection plan, water conservation plan, cross-connection plan, operations and maintenance plan, infrastructure protection plan, and all related material.

(4) **Complete Applications.** Applications for permits will be reviewed together with the submitted information and when the Director is satisfied that the application is complete a determination to issue or deny the permit will be made.

(5) **Public Participation.** Whenever in the judgment of the Director public participation may be required prior to the final determination to issue or deny a permit the Director may give public notice of the proposed action. Public notice will be prepared and circulated in a manner designed to inform interested and potentially interested persons of the permit application. Procedures for circulation of the public notice shall include the following:

(a) Within the geographical area of the proposed or existing public water system, the public notice shall be circulated by at least one of the following:

1. posting it in the post office or other public building near the premises of the proposed or existing public water system; or
2. publication in one (1) or more newspapers of general circulation in the area of the proposed or existing public water system.

(b) Posting of the public notice in the office of the Secretary of State.

(c) A copy of the public notice shall be mailed to the permit applicant and a copy shall be available at the Division office in Atlanta.

(d) Mailing of the public notice to any person or group upon request. The Division shall maintain a mailing list for distribution of public notices. Any person or group may request that their names be placed on the mailing list. The request shall be in writing to the Division office in Atlanta and shall be renewed in December of each year. Failure to renew the request shall result in the removal of such name from the mailing list.

(e) The Director shall provide a period of not less than thirty (30) days following the public notice in which interested persons may submit their written views with respect to the permit application. All written comments submitted during the thirty (30) day comment period will be retained by the Division and considered in the final determination of the permit application.

(f) The contents of the public notice will be in accordance with applicable Federal regulations and State laws.

(6) **Public Hearing.** The Director shall hold a public hearing if he determines that there is sufficient public interest or need for a public hearing prior to the final determination to issue or deny a permit.

(a) Any public hearing held pursuant to this subsection shall be held in the geographical area of the proposed or existing public water system or other appropriate location at the discretion of the Director.

(b) The Director may hold one public hearing on related groups of permit applications.

(c) Public notice of any public hearing held pursuant to this subsection shall be provided at least thirty (30) days in advance of the hearing date and shall be circulated in accordance with paragraph (5) of this Section.

(7) **Permit Conditions.** A permit issued by the Director shall stipulate such terms, and conditions and schedules of compliance as the Director deems necessary to meet the requirements of these rules and which are consistent and in conformity with the Act and the Federal Act. Any permit issued pursuant to the Act may be subject to such monitoring, recording and reporting requirements as may be reasonably required by the Director including the installation, use and maintenance of monitoring equipment or methods; specific requirements for recording of monitoring activities and results; and periodic reporting of monitoring results. The monitoring, recording and reporting requirements shall be specified in a permit issued, provided, however, the Director may modify or require additional monitoring, recording and reporting by written notification to the permittee.

(8) **Permit Transfers.** A permit issued by the Director may be transferred due to a change in ownership of the public water system. The permittee shall notify the succeeding owner by letter of the existing permit and shall surrender the permit to the Director along with a copy of the letter to the succeeding owner. It shall be the succeeding owner's responsibility to request a transfer of the permit. A completed permit application shall be submitted to the Director on the forms prescribed and furnished by the Division within 30 days of transfer. The succeeding owner shall upon the request of the Director provide such additional information as may be necessary (including but not limited to proof of ownership and business plan) to enable the Director to transfer the permit.

(9) **Permit Application Denials.** Based on the information submitted or available to the Director, a permit application may be denied by the Director for any one of the following reasons where the proposed activity or system would:

(a) present an immediate or potential health hazard to the public, or

(b) not adequately supply water under sufficient pressure and flow at all times, or

(c) not meet the requirements of these rules or the Act.

(10) **Notice In Case of Application Denial.** In the event an applicant's permit is denied, the Director shall serve written notice of such action to the applicant setting forth in such notice the reason for the action.

(11) **Permit Expiration Term.** Each permit issued under this Section shall have a fixed term not to exceed ten (10) years. Upon expiration of such permit, a new permit may be issued by the Director if after a review the Director determines that the continued operation of such public water system meets or will meet all applicable drinking water standards, maximum contaminant levels and all requirements of the Act and these rules. Any permit issued under this paragraph may include any of the terms, conditions and schedules of compliance under paragraph (7) of this Section.

(12) **Revocation, Suspension, or Modification.** The Director may revoke, suspend, or modify a permit issued under this Section for cause, including, but not limited to, the following:

- (a) violation of any condition of said permit;
- (b) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;
- (c) change in any condition that requires either:
  - 1. a temporary or permanent decrease in the maximum contaminant levels; or
  - 2. elimination of the permitted operation.

(13) **Notice In Case of Permit Revocation, Suspension, or Modification.** In the event of modification, suspension, or revocation of a permit, the Director shall serve written notice of such action on the permit holder and shall set forth in such notice the reason for the action.

(14) **Access by Division.** The Director or any agents or employees of the Division shall be permitted access in or upon any private or public property at all reasonable times for the purpose of investigating conditions, processes, methods of treatment, records relating to the operation of any public water system, compliance with any operating permit issued, to make sanitary surveys, to determine compliance with the Act and any rules promulgated thereunder, or to make such investigations and studies as the Director deems advisable and necessary for the protection of the public health.

(15) **Previous Permits.** In the event of reissue, modification, suspension, revocation or transfer of a permit all previously issued permits for the system shall be surrendered to the Division upon written notice by the Director.

(16) **Compliance with Wellhead Protection.** All community public water systems utilizing ground water sources and serving a municipality, county, or an authority are required to comply with the Wellhead Protection section of this rule (Section 391-3-5-.40).

(17) **Conformance with Minimum Standards.** Design and construction of all public water systems shall conform with the latest edition of the Division's "*Minimum Standards for Public Water Systems*".

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Water Samples" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Permit to Operate Public Water System" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. June 25,

1992; eff. July 15, 1992. **Amended:** F. June 7, 1993; eff. June 27, 1993. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.

**391-3-5-.18 Primary Maximum Contaminant Levels for Drinking Water.**  
**Amended.**

(1) **Primary MCLs for Inorganics.** INORGANICS - The maximum contaminant levels (MCLs) for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, mercury, nickel, selenium and thallium of this section apply to community water systems and non-transient, non-community water systems. The MCLs for fluoride in this section apply to community water systems. The MCLs for nitrate, nitrite, and total nitrate-nitrite of this section apply to all (CWS, NTNCWS, TNCWS) public water systems.

(a) The following are the maximum contaminant levels for inorganic chemicals:

| Contaminant             | Maximum Contaminant Level (MCL)<br>(mg/L) | Applicable Systems |
|-------------------------|---|--------------------|
| Antimony                | 0.006                                     | CWS, NTNCWS        |
| Arsenic <sup>3</sup>    | 0.010                                     | CWS, NTNCWS        |
| Asbestos                | 7 Million Fibers/Liter Longer than 10 µm  | CWS, NTNCWS        |
| Barium                  | 2   | CWS, NTNCWS        |
| Beryllium               | 0.004                                     | CWS, NTNCWS        |
| Cadmium                 | 0.005                                     | CWS, NTNCWS        |
| Chromium                | 0.1                                       | CWS, NTNCWS        |
| Cyanide                 | 0.2                                       | CWS, NTNCWS        |
| Fluoride <sup>1,2</sup> | 4.0                                       | CWS                |
| Lead                    | see 391-3-5-.25 Treatment Technique       | CWS, NTNCWS        |
| Mercury                 | 0.002                                     | CWS, NTNCWS        |
| Nickel                  | 0.1                                       | CWS, NTNCWS        |
| Nitrate                 | 10 (as N)                                 | CWS, NTNCWS, TNCWS |
| Nitrite                 | 1 (as N)                                  | CWS, NTNCWS, TNCWS |
| Total Nitrate + Nitrite | 10 (as N)                                 | CWS, NTNCWS, TNCWS |
| Selenium                | 0.05                                      | CWS, NTNCWS        |
| Thallium                | 0.002                                     | CWS, NTNCWS        |

NOTES:

1. Effective date for fluoride was October 2, 1987.
2. Fluoride also has a secondary MCL (Section 391-3-5-.19(2)).
- ~~3. The enforcement date for the 0.010 mg/L MCL is January 23, 2006.~~

(b) At the discretion of the Director, nitrate levels not to exceed 20 mg/L may be allowed in a non-community water system if the supplier of water demonstrates to the satisfaction of the Director that:

1. such water will not be available to children under 6 months of age;



2. there will be continuous posting of the fact that nitrate levels exceed 10 mg/L and the potential health effects of exposure;
3. local and State public health authorities will be notified annually of nitrate levels that exceed 10 mg/L;
4. no adverse health effects shall result.

(2) **Primary MCLs for Organics.** ORGANIC CHEMICALS - The following maximum contaminant levels for organic contaminants apply to community water systems and non-transient, non-community water systems. Compliance with maximum contaminant levels for the following organics is to be calculated pursuant to Section 391-3-5-.22.

(a) Synthetic Organic Chemicals, Pesticides and Polychlorinated biphenyls

| <b>Contaminant</b>               | <b>MCL (mg/L)</b> |
|----------------------------------|-------------------|
| Alachlor                         | 0.002             |
| Aldicarb                         | Deferred          |
| Aldicarb sulfone                 | Deferred          |
| Aldicarb sulfoxide               | Deferred          |
| Atrazine                         | 0.003             |
| Benzo(a)Pyrene                   | 0.0002            |
| Carbofuran                       | 0.04              |
| Chlordane                        | 0.002             |
| Dalapon                          | 0.2               |
| Di(2-ethylhexyl) adipate         | 0.4               |
| Di(2-ethylhexyl) phthalate       | 0.006             |
| Dibromochloropropane (DBCP)      | 0.0002            |
| Dinoseb                          | 0.007             |
| Diquat                           | 0.02              |
| 2,4-D                            | 0.07              |
| Endothall                        | 0.1               |
| Endrin                           | 0.002             |
| Ethylene dibromide (EDB)         | 0.00005           |
| Glyphosate                       | 0.7               |
| Heptachlor                       | 0.0004            |
| Heptachlor Epoxide               | 0.0002            |
| Hexachlorobenzene                | 0.001             |
| Hexachlorocyclopentadiene        | 0.05              |
| Lindane                          | 0.0002            |
| Methoxychlor                     | 0.04              |
| Oxamyl (Vydate)                  | 0.2               |
| Pentachlorophenol                | 0.001             |
| Picloram                         | 0.5               |
| Polychlorinated biphenyls (PCBs) | 0.0005            |
| Simazine                         | 0.004             |
| Toxaphene                        | 0.003             |
| 2,4,5-TP (Silvex)                | 0.05              |

| Contaminant           | MCL (mg/L)         |
|-----------------------|--------------------|
| 2,3,7,8-TCDD (Dioxin) | $3 \times 10^{-8}$ |

(b) Volatile Organic Contaminants (VOCs)

| Contaminant                | MCL (mg/L) |
|----------------------------|------------|
| Vinyl chloride             | 0.002      |
| Benzene                    | 0.005      |
| Carbon tetrachloride       | 0.005      |
| 1,2-Dichloroethane         | 0.005      |
| Trichloroethylene          | 0.005      |
| para-Dichlorobenzene       | 0.075      |
| 1,1-Dichloroethylene       | 0.007      |
| 1,1,1-Trichloroethane      | 0.2        |
| cis-1,2-Dichloroethylene   | 0.07       |
| 1,2-Dichloropropane        | 0.005      |
| Ethylbenzene               | 0.7        |
| Monochlorobenzene          | 0.1        |
| o-Dichlorobenzene          | 0.6        |
| Styrene                    | 0.1        |
| Tetrachloroethylene        | 0.005      |
| Toluene                    | 1          |
| trans-1,2-Dichloroethylene | 0.1        |
| Xylenes (total)            | 10         |
| Dichloromethane            | 0.005      |
| 1,2,4-Trichlorobenzene     | 0.07       |
| 1,1,2-Trichloroethane      | 0.005      |

(3) **Primary MCLs for Turbidity.** TURBIDITY - Treatment Technique Requirements:

(a) The maximum contaminant level for turbidity is determined by a treatment technique requirement as set forth in this Section.

(b) The treatment technique requirement for turbidity is applicable to both community water systems and non-community water systems using surface water sources or ground water sources under the direct influence of surface water in whole or in part. The treatment technique requirement for turbidity in drinking water, measured at a representative point(s) in the filtered water is:

1. Less than or equal to 0.3 turbidity unit in at least 95 percent of the monthly measurements. One turbidity unit is the maximum allowable level and must not be exceeded at any time.
2. Five turbidity units is the maximum allowable level and must not be exceeded at any time.
3. In accordance with 40 CFR § 141.73, the Division may allow higher turbidity levels for

slow sand filtration, diatomaceous earth filtration, or other filtration technologies.

4. Beginning January 1, 2002, public water systems that use surface water or ground water under the direct influence of surface water and serve at least 10,000 people must meet the filtration requirements specified in 40 CFR § 141.173 (see Rule 391-3-5-.20(5)).

5. The Enhanced Filtration and Disinfection requirements specified in 40 CFR, Subpart P are applicable to Subpart H systems serving at least 10,000 people (see Rule 391-3-5-.20(8)).

6. Beginning January 14, 2005, public water systems that use surface water or ground water under the direct influence of surface water as a source and serve fewer than 10,000 people must meet the filtration and disinfection requirements in 40 CFR Part 141, Subpart T. This requirement is in addition to complying with requirements in Subpart H of 40 CFR Part 141 [see Rule 391-3-5-.20(8)].

(4) **Primary MCLs for Microbiologicals.** MICROBIOLOGICAL - Maximum contaminant levels (MCLs) for microbiological contaminants.

(a) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

1. For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

2. For a system which collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in Section 391-3-5-.32, this is a violation that may pose an acute risk to health.

(c) A public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this Section for each month in which it is required to monitor for total coliforms.

(5) **Primary MCLs for Radioactivity and Radionuclides.** RADIOACTIVITY - Maximum contaminant levels for Radium-226, Radium-228, gross alpha particle radioactivity, beta particle and photon radioactivity from man-made radionuclides in community water systems.

(a) The following are the maximum contaminant levels for Radium-226, Radium-228, gross alpha radioactivity, and Uranium:

| Radionuclides / Radioactivity  | MCL      |
|--|----------|
| Combined Radium-226 and Radium-228 ( <sup>226</sup> Ra, <sup>228</sup> Ra)           | 5 pCi/L  |
| Gross alpha particle activity (including Radium-226 but excluding Radon and Uranium) | 15 pCi/L |
| Uranium  | 30 µg/L  |

(b) The average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem per year.

(c) Except for the radionuclides listed in Table A, the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents shall be calculated on the basis of a 2 liter per day drinking water intake using the 168 hour data listed in “*Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air or Water for Occupational Exposure*”, NBS Handbook 69 as amended August, 1963, U.S. Department of Commerce. If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 millirem per year.

TABLE A. — Average annual concentrations assumed for the purpose of this rule to produce a total body or organ dose of 4 millirem per year.

| Radionuclide                     | Critical Organ | Average Annual Concentration |
|----------------------------------|----------------|------------------------------|
| Tritium ( <sup>3</sup> H)        | Total Body     | 20,000 pCi/L                 |
| Strontium-90 ( <sup>90</sup> Sr) | Bone Marrow    | 8 pCi/L                      |

(6) **Primary MCLs for Trihalomethanes.** TRIHALOMETHANES - Maximum contaminant level for trihalomethanes: see section (7), DISINFECTANTS and DISINFECTION BYPRODUCTS, below.

(7) **Primary MCLs for Disinfectants and Disinfection Byproducts.** DISINFECTANTS and DISINFECTION BYPRODUCTS (D/DBPs). Beginning January 1, 2002, this section shall be applicable as specified below:

(a) The maximum contaminant levels (MCLs) for disinfection byproducts (DBPs) are as specified in section 40 CFR § 141.64 and the maximum residual disinfectant levels (MRDLs) are as specified in section 40 CFR § 141.65.

| Disinfection Byproduct         | MCL (mg/L) |
|--------------------------------|------------|
| Total trihalomethanes (TTHM)   | 0.080      |
| Haloacetic acids (five) (HAA5) | 0.060      |
| Bromate                        | 0.010      |
| Chlorite                       | 1.0        |

| Disinfectant Residuals | MRDL (mg/L)                |
|------------------------|----------------------------|
| Chlorine               | 4.0 (as Cl <sub>2</sub> )  |
| Chloramines            | 4.0 (as Cl <sub>2</sub> )  |
| Chlorine Dioxide       | 0.8 (as ClO <sub>2</sub> ) |

(b) Beginning January 1, 2002, community and non-transient, non-community Subpart H water systems which serve a population of 10,000 people or more must comply with this section. **All systems must comply with these MCLs until the date specified for Subpart V compliance in 40 CFR § 141.620(c).**

(c) Beginning January 1, 2004, community and non-transient, non-community Subpart H water

systems serving fewer than 10,000 people and systems using only ground water not under the direct influence of surface water must comply with this section. All systems must comply with these MCLs until the date specified for Subpart V compliance in 40 CFR § 141.620(c).

(d) The Subpart V MCLs for TTHM and HAA5 must be complied with as a locational running annual average at each monitoring location beginning the date specified for Subpart V compliance in 40 CFR § 141.620(c).

(e) A system that is installing granular activated carbon (GAC) or membrane technology to comply with this section may apply to the Division for an extension of up to 24 months past the dates in paragraphs (b) and (c) of this section, but not beyond December 31, 2003.

(f) Transient non-community Subpart H water systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002.

(g) Transient non-community Subpart H water systems serving fewer than 10,000 persons and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

(h) Maximum Contamination Level Goals (MCLG). The maximum contaminant level goals for organic contaminants, inorganic contaminants, and microbiological contaminants shall be in accordance with 40 CFR Part 141.50, 141.51, 141.53, and 141.54.

(i) The best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for disinfection byproducts identified in Section 391-3-5-.18(7)(a) shall be in accordance with 40 CFR, Part 141.64~~(e)~~(b).

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Operating Records" adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled "Primary Maximum Contaminant Levels for Drinking Water" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule, same title adopted. F. June 25, 1992; eff. July 15, 1992. **Repealed:** New Rule of same title adopted. F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### 391-3-5-.19 Secondary Maximum Contaminant Levels for Drinking Water. Amended.

- (1) **Adverse Effects on Drinking Water.** The drinking water should not contain any contaminant which will adversely affect the odor or appearance of the drinking water and consequently may cause a substantial number of the persons served by the public water system to discontinue its use or which may adversely affect the public welfare.
- (2) **Secondary MCLs.** The Secondary maximum contaminant levels established below represent reasonable goals for drinking water quality:

| Contaminant                  | Secondary Level         |
|------------------------------|-------------------------|
| Aluminum                     | 0.05 to 0.2 mg/L        |
| Chloride                     | 250 mg/L                |
| Color                        | 15 color units          |
| Copper                       | 1.0 mg/L                |
| Corrosivity                  | Non-corrosive           |
| Fluoride                     | 2.0 mg/L                |
| Foaming Agents               | 0.5 mg/L                |
| Iron                         | 0.3 mg/L                |
| Manganese (Mn)               | 0.05 mg/L               |
| Odor                         | 3 threshold odor number |
| Silver                       | 0.1 mg/L                |
| Sulfate                      | 250 mg/L                |
| Total dissolved solids (TDS) | 500 mg/L                |
| Zinc                         | 5.0 mg/L                |

- (3) **Standard Methods.** Any analyses required under this rule shall be conducted in accordance with the analytical recommendations set forth in the latest edition of "*Standard Methods of Examination of Water and Wastewater*" as published by the American Public Health Association, or as such analyses may be modified by the Director.
- (4) **Collect and Submit Samples for Analyses.** Upon written direction of the Director, the supplier shall collect drinking water samples and submit them to the Division's water laboratory or other laboratory for analyses in accordance with the schedule furnished to the supplier.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Drinking Water Standards" was filed on September 6, 1973; effective September 26, 1973. **Amended:** Rule repealed and a new Rule entitled "Microbiological Contaminant Sampling and Analytical Requirements" adopted. Filed July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** Filed July 15, 1983; effective August 4, 1983. **Repealed:** New Rule entitled "Secondary Maximum Contaminant Levels for Drinking Water" adopted. F. May 12, 1989; eff. Jun. 1, 1989. **Repealed:** New Rule, same title, adopted. F. Jun. 25, 1992; eff. Jul. 15, 1992. **Repealed:** New Rule, same title, adopted. F. Mar. 10, 1994; eff. Mar 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997.

### **391-3-5-.20 Turbidity Sampling and Analytical Requirements. Amended.**

(1) **Turbidity Testing Frequency.** On and after June 29, 1993, representative samples of filtered water shall be taken and analyzed by said suppliers at least every four hours when the plant is in operation, for the purpose of making turbidity measurements to determine compliance with the treatment technique requirement of paragraph (3) of Section 391-3-5-.18. If the Division determines that a reduced sampling frequency in a non-community system will not pose a risk to public health, it can reduce the required sampling frequency in accordance with 40 CFR 141.74 for systems using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration. The option of reducing the turbidity frequency shall be permitted only in those public water systems that practice disinfection and which maintain an active residual disinfectant in the distribution system and in those cases where the Division has indicated in writing that no unreasonable risk to health existed under the circumstances of this option. The turbidity measurements shall be made in accordance with the recommendations set forth in 40 CFR Part 141.22.

(2) **Exceedance Determination.** If the result of a turbidity analysis on and after June 29, 1993 indicates that the treatment technique requirement has been exceeded, the sampling and measurement shall be confirmed by resampling as soon as practicable and preferably within one hour. If the repeat sample confirms that the treatment technique requirement has been exceeded, the supplier of water shall consult with the primacy agency within 24 hours after learning about the violation (141.203(b)). If consultation does not occur within those 24 hours the violation is elevated to a Tier 1. The repeat sample shall be the sample of water used for the purpose of calculating compliance with the monthly treatment technique requirement. If the monthly treatment technique requirement is exceeded, or if the maximum measured level exceeds the maximum allowable level, the supplier of water shall report to the Division and notify the public as directed in Sections 391-3-5-.30 and .32.

(3) **Applicability to Surface Water Sources.** The requirements of this Section shall apply only to public water systems, which use water obtained in whole or in part from surface water sources or ground water sources under the direct influence of surface water.

(4) **Compliance and Enforcement.** The Division has the authority to determine compliance or initiate enforcement action based upon analytical results or other information compiled by their sanctioned representatives or agencies.

(5) **Filtration Requirements for Greater than 10,000 Population Water Systems.** Beginning January 1, 2002, public water systems that use surface water or ground water under the direct influence of surface water and serve at least 10,000 people must meet the filtration requirements specified in 40 CFR § 141.173.

(6) **Enhanced Filtration Requirements.** The Enhanced Filtration and Disinfection requirements specified in 40 CFR, Subpart P are applicable to Subpart H systems serving at least 10,000 people.

(a) General requirements: 40 CFR, Subpart P § 141.170 is hereby incorporated by reference. Subpart H systems that did not conduct optional monitoring under § 141.172 because they served



fewer than 10,000 persons when such monitoring was required, but serve more than 10,000 persons prior to January 14, 2005 must comply with §§ 141.170, 141.171, 141.173, 141.174, and 141.175. These systems must contact the Division and establish a disinfection benchmark. A system that decides to make a significant change to its disinfection practice, as described in § 141.172(c)(1)(i) through (iv) must obtain prior approval from the Division prior to making such change.

(b) Criteria for avoiding filtration: 40 CFR, Subpart P § 141.171 is hereby incorporated by reference.

(c) Disinfection profiling and benchmarking: 40 CFR, Subpart P § 141.172 is hereby incorporated by reference.

(d) Determination of systems required to profile: 40 CFR, Subpart P § 141.172(a) is hereby incorporated by reference.

(e) Disinfection profiling: 40 CFR, Subpart P § 141.172(b) is hereby incorporated by reference.

(f) Disinfection benchmarking: 40 CFR, Subpart P § 141.172(c) is hereby incorporated by reference.

(7) **Filtration.** 40 CFR, Subpart P § 141.173 is hereby incorporated by reference.

(a) Conventional filtration treatment or direct filtration: 40 CFR, Subpart P § 141.173(a) is hereby incorporated by reference. (For systems using conventional filtration or direct filtration, the turbidity level of representative samples of a system's filtered water must be less than or equal to 0.3 NTU (Nephelometric Turbidity Units) in at least 95 percent of the measurements taken each month, measured as specified in 40 CFR § 141.74(a) and (c), and the turbidity level of representative samples of a system's filtered water must at no time exceed 1 NTU, measured as specified in 40 CFR § 141.74(a) and (c)).

(b) Systems using filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration: 40 CFR, Subpart P § 141.173(b) is hereby incorporated by reference. Beginning January 1, 2002, systems serving at least 10,000 people must meet the requirements for other filtration technologies referenced in 141.173(b).

(c) Filtration sampling requirements: 40 CFR, Subpart P § 141.174 is hereby incorporated by reference. (A public water system subject to the requirements of this section that provides conventional filtration treatment or direct filtration must conduct continuous monitoring of turbidity for each individual filter using an approved method in 40 CFR § 141.74(a) and must calibrate turbidimeters using the procedure specified by the manufacturer. Systems must record the results of individual filter monitoring every fifteen (15) minutes. If there is a failure in the continuous turbidity monitoring equipment, the system must conduct grab sampling every four (4) hours in lieu of continuous monitoring, but for no more than five (5) working days following the failure of the equipment.)

(8) **Filtration Requirements for Fewer than 10,000 Population Water Systems.** Beginning January 14, 2005, public water systems that use surface water or ground water under the direct influence of surface water as a source and serve fewer than 10,000 people must meet the filtration and disinfection requirements in 40 CFR Part 141, Subpart T. This requirement is in addition to complying with requirements in Subpart H of 40 CFR Part 141.

(a) Beginning January 14, 2005, public water systems that use surface water or ground water under



the direct influence of surface water and serve fewer than 10,000 people must meet the filtration requirements specified in 40 CFR §§ 141.550 through 141.553.

(b) Other filtration technologies: 40 CFR § 141.73(d) is hereby incorporated by reference. Beginning January 14, 2005, systems serving fewer than 10,000 people must meet the requirements for other filtration technologies in 40 CFR §§ 141.550 through 141.553.

(c) General requirements: 40 CFR, Subpart T § 141.500 is hereby incorporated by reference.

(d) Additional watershed control requirements for unfiltered systems: 40 CFR, Subpart T §§ 141.520 through 141.522 is hereby incorporated by reference. This is in addition to the continued requirement to comply with the filtration avoidance criteria in 40 CFR § 141.71.

(e) Disinfection Profile: 40 CFR, Subpart T §§ 141.530 through 141.536 is hereby incorporated by reference. This requirement applies both to community and non-transient non-community water systems.

(f) Disinfection benchmark: 40 CFR, Subpart T §§ 141.540 through 141.544 is hereby incorporated by reference. If you are a subpart H system required to develop a disinfection profile under Section 391-3-5-.20(10)(e), your system must develop a disinfection benchmark if you decide to make a significant change to your disinfection practice. Before implementing a significant disinfection practice change, a prior approval from the Division must be obtained. Significant changes to disinfection practice include:

1. Changes to the point of disinfection;
2. Changes to the disinfectant(s) used in the treatment plant;
3. Changes to the disinfection process; or
4. Any other modification identified by the Division.

(g) Combined filter effluent requirements: 40 CFR, Subpart T § 141.550 through 141.553 is hereby incorporated by reference. This requirement applies to all subpart H systems which serve populations fewer than 10,000, are required to filter, and utilize filtration other than slow sand filtration or diatomaceous earth filtration.

1. For systems using conventional filtration or direct filtration, the turbidity level of representative samples of a system's filtered water must be less than or equal to 0.3 NTU in at least 95 percent of the measurements taken each month, and the maximum turbidity level of representative samples of a system's filtered water must at no time exceed 1 NTU. All measurements must be taken as described in 40 CFR § 141.74 (a) and (c).

2. For systems using "alternative" filtration (filtration other than slow sand filtration, diatomaceous earth filtration, conventional filtration, or direct filtration), the 95<sup>th</sup> percentile turbidity value, not to exceed 1 NTU, and the maximum turbidity value, not to exceed 5 NTU, shall be determined by the Division based on the demonstration as described in 40 CFR, Subpart T § 141.552. The systems, using pilot plant studies or other means, must demonstrate that the system's filtration, in combination with disinfection treatment, consistently achieves: two-log (99%) removal of *Cryptosporidium* oocysts; three-log (99.9%) removal and/or inactivation of *Giardia lamblia* cysts; and four-log (99.99%) removal and/or inactivation of viruses.

(h) Individual filter turbidity requirements for systems utilizing conventional filtration or direct filtration: 40 CFR, Subpart T §§ 141.560 through 141.564 is hereby incorporated by reference. A subpart H public water system subject to the requirements of this section must conduct continuous monitoring of turbidity for each individual filter using an approved method in 40 CFR § 141.74(a) and must calibrate turbidimeters using the procedure specified by the manufacturer. Systems must record the results of individual filter monitoring every fifteen (15) minutes. If there is a failure in the continuous turbidity monitoring equipment, the system must conduct grab sampling every four (4) hours in lieu of continuous monitoring until the turbidimeter is back on-line. The system has fourteen (14) days to resume continuous monitoring before a violation is incurred.

1. Systems with two or fewer filters may conduct continuous monitoring of combined filter effluent turbidity in lieu of individual filter effluent turbidity monitoring, in accordance with the same requirements set forth in 40 CFR § 141.560 (a) through (d) and § 141.561.
2. Based on continuous turbidity monitoring of individual filters, the systems are required to take the follow-up actions described in 40 CFR § 141.563 (a), (b) and (c).

(i) Reporting and recordkeeping requirements: 40 CFR, Subpart T §§ 141.570 through 141.571 is hereby incorporated by reference. The items which must be reported and the frequency of reporting must be as specified in 40 CFR § 141.570. Based on the requirements of subpart T of 40 CFR Part 141, applicable systems must keep several required records, in addition to the recordkeeping required under 40 CFR § 141.75. Specifically, the results of individual filter monitoring must be kept for at least three (3) years and the results of any disinfection profiling or benchmarking (including raw data and analysis) must be kept indefinitely.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Enforcement” adopted. F. Sept. 6, 1973; eff. Sept. 26, 1973. **Repealed:** New Rule entitled “Turbidity Sampling and Analytical Requirements” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule same title adopted. F. May 12, 1989; eff. June 1, 1989. **Repealed:** New Rule of same title adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. June 25, 1992; eff. July 15, 1992. **Repealed:** New Rule of same title, adopted. F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005.

## **391-3-5-.21 Inorganic Chemical Sampling and Analytical Requirements. Amended.**

(1) **CWS and NTNCWS Monitoring.** Community and non-transient, non-community water systems shall conduct monitoring to determine compliance with the maximum contaminant levels specified in Section 391-3-5-.18 in accordance with this section.

(2) **TNCWS Monitoring.** Transient, non-community water systems shall conduct monitoring to determine compliance with the nitrate and nitrite maximum contaminant levels in Section 391-3-5-.18 in accordance with this section.

(3) **Arsenic Monitoring.** The frequency of monitoring conducted to determine compliance with the maximum contaminant level for arsenic specified in Section 391-3-5-.18 shall be conducted as follows:

(a) Analyses for all community and non-transient, non-community water systems utilizing surface water sources shall be repeated at yearly intervals.

(b) Analyses for all community and non-transient, non-community water systems utilizing only ground water sources shall be repeated at three-year intervals.

(c) If the result of an analysis made pursuant to paragraph (3) of this Section indicates that the level of arsenic listed in paragraph (1) of Section 391-3-5-.18 exceeds the maximum contaminant level, the supplier of water shall report to the Division in writing within seven (7) days and initiate three additional analyses at the same sampling point within ~~one month~~ **fourteen (14) days.** ~~[Note: for the purposes of this paragraph, the effective Division enforcement date for the 0.01 mg/L MCL is January 23, 2006. Prior to this date, the Division will enforce the MCL of 0.05 mg/L]~~

(d) When the average of four analyses made pursuant to paragraph (3)(c) of this Section, rounded to the same number of significant figures as the maximum contaminant level for the substance in question, exceeds the maximum contaminant level, the supplier of water shall notify the Division pursuant to Section 391-3-5-.30 and give notice to the public pursuant to Section 391-3-5-.32. Monitoring after public notification shall be at a frequency designated by the Division and shall continue until the maximum contaminant level has not been exceeded in two successive samples or until a monitoring schedule as a condition to a permit, variance, exception or enforcement action shall become effective.

(e) If the four analyses are not made pursuant to paragraph (3)(c) of this section, the Division will use the analyses available to prepare compliance calculations pursuant to paragraph (3)(d) of this section.

(f) The system may apply to the Division for an arsenic waiver from the monitoring frequencies in paragraphs (3)(a) and (3)(b) of this section pursuant to paragraph (6)(b).

(4) **Inorganic Monitoring.** Monitoring for inorganic chemicals shall be conducted as follows:

(a) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point) beginning in the compliance period starting January 1, 1993. The system shall take each sample at the same sampling point unless conditions make another sampling point

more representative of each source or treatment plant.

(b) Surface water systems shall take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment (hereafter called a sampling point) beginning in the compliance period starting January 1, 1993. The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. [NOTE: For purposes of this paragraph, surface water systems include systems with a combination of surface and ground sources.]

(c) If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).

(d) The Division may reduce the total number of samples, which must be analyzed by allowing the use of compositing. Composite samples shall be collected and analyzed in accordance with 40 CFR, Part 141.23(a)(4). In the case of arsenic, if a PWS supplies water to one or more other PWSs and the interconnection justifies treating them as a single system for monitoring purposes, then the PWSs receiving the supplied water may have their arsenic monitoring requirements modified.

(5) **Asbestos Monitoring.** The frequency of monitoring conducted to determine compliance with the maximum contaminant level for asbestos specified in Section 391-3-5-.18 shall be conducted as follows:

(a) Community or non-transient, non-community water systems are required to monitor for asbestos during the first three-year compliance period of each nine-year compliance cycle beginning in the compliance period starting January 1, 1993.

(b) If the system believes it is not vulnerable to either asbestos contamination in its source water or due to corrosion of asbestos-cement pipe, or both, it may apply to the Division for a waiver of the monitoring requirements in paragraph (5)(a) above. If the waiver is granted by the Division, the system is not required to monitor.

(c) The Division may grant a waiver based on a consideration of the following factors:

1. Potential asbestos contamination of the water source.
2. The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

(d) A waiver remains in effect until the completion of the three-year compliance period. Systems not receiving a waiver must monitor in accordance with the provisions of paragraph (5)(a) of this section.

(e) A system vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe shall take one sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(f) A system vulnerable to asbestos contamination due solely to source water shall monitor in accordance with the provision of paragraph (4) of this section.

(g) A system vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe shall take one sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(h) A system which exceeds the maximum contaminant levels as determined in Section 391-3-5-.21(12) shall monitor quarterly beginning in the next quarter after the violation occurred.

(i) The Division may decrease the quarterly monitoring requirement to the frequency specified in paragraph (5)(a) of this section provided the Division has determined that the system is reliably and consistently below the maximum contaminant level. In no case can the Division make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface (or combined surface/ground) water system takes a minimum of four quarterly samples.

(j) If monitoring data collected after January 1, 1990 are generally consistent with the requirements of Section 391-3-5-.21(5) then the Division may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(6) **Other Inorganics Monitoring.** The frequency of monitoring conducted to determine compliance with the maximum contaminant levels in Section 391-3-5-.18 for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium shall be as follows:

(a) Groundwater systems shall take one sample at each sampling point during each compliance period beginning in the compliance period starting January 1, 1993. Surface water systems (or combined surface/ground) shall take one sample annually at each sampling point beginning January 1, 1993.

(b) The system may apply to the Division for a waiver from the monitoring frequencies specified in paragraph (3)(a), (3)(b) and (6)(a) of this section.

(c) A condition of the waiver shall require that a system shall take a minimum of one sample while the waiver is effective. The term during which the waiver is effective shall not exceed one compliance cycle (i.e., nine years).

(d) The Division may grant a waiver provided surface water systems have monitored annually for at least three years and groundwater systems have conducted a minimum of three rounds of monitoring. (At least one sample shall have been taken since January 1, 1990.) Both surface and groundwater systems shall demonstrate that all previous analytical results were less than the maximum contaminant level. Systems that use a new water source are not eligible for a waiver until three rounds of monitoring from the new source have been completed. In the case of arsenic, new water systems are not eligible for a waiver until three rounds of monitoring have been completed.

(e) In determining the appropriate reduced monitoring frequency, the Division shall consider:

1. Reported concentrations from all previous monitoring;
2. The degree of variation in reported concentrations; and
3. Other factors which may affect contaminant concentrations such as changes in groundwater pumping rates, changes in the system's configuration, changes in the system's operating procedures, or changes in stream flows or characteristics.

(f) A decision by the Division to grant a waiver shall be made in writing and shall set forth the basis for the determination. The determination may be initiated by the Division or upon an application by the public water system. The public water system shall specify the basis for its request. The Division shall review and, where appropriate, revise its determination of the appropriate monitoring frequency when the system submits new monitoring data or when other data relevant to the system's appropriate monitoring frequency become available.

(g) Systems which exceed the maximum contaminant levels as calculated in paragraph (3)(d) and (12) of this section shall monitor quarterly beginning in the next quarter after the violation occurred.

(h) The Division may decrease the quarterly monitoring requirement to the frequencies specified in paragraph (3)(a), (3)(b), (6)(a) and (6)(b) of this section provided it has determined that the system is reliably and consistently below the maximum contaminant level. In no case can the Division make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface water system takes a minimum of four quarterly samples.

(7) **Nitrate Monitoring.** The frequency of monitoring for nitrate shall be as follows: All public water systems (community; non-transient, non-community; and transient, non-community systems) shall monitor to determine compliance with the maximum contaminant level for nitrate in Rule 391-3-5-.18.

(a) Community and non-transient, non-community water systems served by groundwater systems shall monitor annually beginning January 1, 1993; systems served by surface water shall monitor quarterly beginning January 1, 1993.

(b) For community and non-transient, non-community water systems, the repeat monitoring frequency for ground water systems shall be quarterly for at least one year following any one sample in which the concentration is greater than or equal to fifty percent ( $\geq 50\%$ ) of the MCL. The Division may allow a groundwater system to reduce the sampling frequency to annually after four consecutive quarterly samples are reliably and consistently less than the MCL.

(c) For community and non-transient, non-community water systems, the Division may allow a surface water system to reduce the sampling frequency to annually if all analytical results from four consecutive quarters are less than fifty percent ( $< 50\%$ ) of the MCL. A surface water system shall return to quarterly monitoring if any one sample is greater than or equal to fifty percent ( $\geq 50\%$ ) of the MCL.

(d) Each transient non-community water system shall monitor annually beginning January 1, 1993.

(e) After the initial round of quarterly sampling is completed, each community and non-transient non-community system which is monitoring annually shall take subsequent samples during the quarter(s) which previously resulted in the highest analytical result.

(8) **Nitrite Monitoring.** The frequency of monitoring for nitrite shall be as follows: All public water systems (community; non-transient, non-community; and transient, non-community systems) shall monitor to determine compliance with the maximum contaminant level for nitrite in Rule 391-3-5-.18.

(a) All public water systems shall take one sample at each sampling point in the compliance period beginning January 1, 1993 and ending December 31, 1995.

(b) After the initial sample, systems where an analytical result for nitrite is less than fifty percent (<50%) of the MCL shall monitor at the frequency specified by the Division.

(c) For community, non-transient, non-community, and transient non-community water systems, the repeat monitoring frequency for any water system shall be quarterly for at least one year following any one sample in which the concentration is greater than or equal to fifty percent ( $\geq 50\%$ ) of the MCL. The Division may allow a system to reduce the sampling frequency to annually after determining the system is reliably and consistently less than the MCL.

(d) Systems which are monitoring annually shall take each subsequent sample during the quarter(s) which previously resulted in the highest analytical result.

(9) **Confirmation samples.**

(a) Where the results of sampling for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium, or thallium indicate an exceedance of the maximum contaminant level, the Division may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point.

(b) Where nitrate or nitrite sample results indicate an exceedance of the maximum contaminant level, the system shall take a confirmation sample within 24 hours of the system's receipt of notification of the analytical results of the first sample. Systems unable to comply with the 24-hour sampling requirement must immediately notify the customers served by the area served by the public water system in accordance with Rule 391-3-5-.32. Systems exercising this option must take and analyze a confirmation sample within two weeks of notification of the analytical results of the first sample.

(c) If a Division-required confirmation sample is taken for any contaminant, then the results of the initial and confirmation sample shall be averaged. The resulting average shall be used to determine the system's compliance in accordance with paragraph 12 of the section.

(10) **Increased Frequency of Monitoring.** The Division may require more frequent monitoring than specified in paragraphs (5), (6), (7), and (8) of this section or may require confirmation samples for positive and negative results at its discretion.

(11) **Request for Increased Monitoring Frequency.** Systems may apply to the Division to conduct more frequent monitoring than the minimum monitoring frequencies specified in this section.

(12) **Compliance Based on Analytical Results.** Compliance with Rule 391-3-5-.18 (as appropriate) shall be determined based on the analytical result(s) obtained at each sampling point.

(a) For systems which are conducting monitoring at a frequency greater than annual, compliance with the maximum contaminant levels for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium is determined by a running annual average at each sampling point. If the average at any sampling point is greater than the MCL, then the system is out of compliance. If any single sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any sample below the detection limit shall be calculated at zero for the purpose of determining the annual average.

(b) For systems which are monitoring annually, or less frequently, the system is out of



compliance with the maximum contaminant levels for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the Division, the determination of compliance will be based on the average of the two samples.

(c) Compliance with the maximum contaminant levels for nitrate and nitrite is determined based on one sample if the levels of these contaminants are below the MCLs. If the levels of nitrate and/or nitrite exceed the MCLs in the initial sample, a confirmation sample is required in accordance with paragraph (9) of this section, and compliance shall be determined based on the average of the initial and confirmation samples.

(d) If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the Division may allow the system to give public notice to only the area served by that portion of the system which is out of compliance.

(13) **Monitor at Time Designed by Division.** Each public water system shall monitor at the time designated by the Division during each compliance period.

(14) **Analyses to Determine Compliance.** All analyses conducted to determine compliance with paragraph (1)(a) of Rule 391- 3-5-.18 and this Section shall be in accordance with 40 CFR, Part 141.23(k). **Arsenic sampling results shall be reported to the nearest 0.001 mg/L.**

(15) **Certified Laboratories.** Analysis under this section shall only be conducted by laboratories that have received approval by EPA fulfilling the requirements listed in 40 CFR, Part 141.23(k)~~(6)(3)~~ or have received certification from the Division. Laboratories may conduct sample analysis under provisional certification until January 1, 1996.

(16) **Compliance and Enforcement.** The Division has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by their sanctioned representatives or agencies.

(17) **Treatment to Achieve Compliance.** The best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant level for inorganic contaminants identified in Section 391-3-5-.18(1)(a) shall be in accordance with 40 CFR, Part 141.62(c).

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Inorganic Chemical Sampling and Analytical Requirements” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5- .47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule of same title adopted. F. June 25, 1992; eff. July 15, 1992. **Repealed:** New Rule of same title adopted F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.



## **391-3-5-.22 Organic Chemical Sampling and Analytical Requirements. Amended.**

(1) **Organic Monitoring.** Beginning on January 1, 1993, analysis of the contaminants listed in Section 391-3-5-.18(2)(b)1-21 for the purpose of determining compliance with the maximum contaminant level shall be conducted as follows:

(a) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source, treatment plant, or within the distribution system.

(b) Surface water systems (or combined surface/ground) shall take a minimum of one sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source, treatment plant, or within the distribution system.

(c) If the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water representative of all sources is being used).

(d) Each community and non-transient non-community water system shall take four consecutive quarterly samples for each contaminant listed in Section 391-3-5-.18(2)(b)2-21 during each compliance period.

(e) If the initial monitoring for contaminants listed in Section 391-3-5-.18(2)(b)1-8 and the monitoring for the contaminants listed in Section 391-3-5-.18(2)(b)9-21 as allowed in paragraph (1)(q) of this section has been completed by December 31, 1992 and the system did not detect any contaminant listed in Section 391-3-5-.18(2)(b)1-21, then each ground and surface water system shall take one sample annually.

(f) After a minimum of three years of annual sampling, the Division may allow groundwater systems with no previous detection of any contaminant listed in Section 391-3-5-.18(2)(b) to take one sample during each compliance period.

(g) Each community and non-transient groundwater system which does not detect a contaminant listed in Section 391-3-5-.18(2)(b)1-21 may apply to the Division for a waiver from the requirement of paragraph (1)(e) and (1)(f) of this section after completing the initial monitoring. (For the purposes of this section, detection is defined as  $>0.0005$  mg/L.) A waiver shall be effective for no more than six years (two compliance periods). The Division may also issue waivers to small systems for the initial round of monitoring for 1,2,4-trichlorobenzene.

(h) The Division may grant a waiver after evaluating the factors in accordance with 40 CFR, Part 141.24(f)(8-9).

(i) Each community and non-transient surface water system which does not detect a contaminant listed in Section 391-3-5-.18(2)(b)1-21 may apply to the Division for a waiver from the requirements of (1)(e) of this section after completing the initial monitoring. Composite samples from a maximum of five sampling points are allowed, provided that the detection limit of the

method used for analysis is less than one-fifth of the MCL. Systems meeting this criteria must be determined by the Division to be non-vulnerable based on a vulnerability assessment during each compliance period. Each system receiving a waiver shall sample at the frequency specified by the Division (if any).

(j) If a contaminant listed in Section 391-3-5-.18(2)(b)2-21 is detected at a level exceeding 0.0005 mg/L in any sample, then:

1. The system must monitor quarterly at each sampling point which resulted in a detection.
2. The Division may decrease the quarterly monitoring requirements specified in paragraph (1)(j)(1) of this section; provided it has determined that the system is reliably and consistently below the maximum contaminant level. In no case shall the Division make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface water system takes a minimum of four quarterly samples.
3. If the Division determines that the system is reliably and consistently below the MCL, the Division may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter(s) which previously yielded the highest analytical result.
4. Systems which have three consecutive annual samples with no detection of a contaminant may apply to the Division for a waiver as specified in paragraph (1)(g) of this section.
5. Groundwater systems which have detected one or more of the following two-carbon organic compounds: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene shall monitor quarterly for vinyl chloride. A vinyl chloride sample shall be taken at each sampling point at which one or more of the two-carbon organic compounds was detected. If the results of the first analysis do not detect vinyl chloride, the Division may reduce the quarterly monitoring frequency of vinyl chloride monitoring to one sample during each compliance period. Surface water systems are required to monitor for vinyl chloride as specified by the Division.

(k) Systems which violate the requirements of Section 391-3-5-.18(2)(b)1-21 as determined by paragraph (1)(n) of this section must monitor quarterly. After a minimum of four quarterly samples which show the system is in compliance as specified in paragraph (1)(n) of this section, and the Division determines that the system is reliably and consistently below the maximum contaminant level, the system may monitor at the frequency and time specified in paragraph (1)(j)3 of this section.

(l) The Division may require a confirmation sample for positive or negative results. If a confirmation sample is required by the Division, the result must be averaged with the first sampling result and the average is used for the compliance determination as specified by paragraph (1)(n) of this section. The Division has the discretion to delete results of obvious sampling errors from this calculation.

(m) The Division may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite sampling and their analysis shall be in accordance with 40 CFR, Part 141.24(f)(14).

(n) Compliance with Rule 391-3-5-.18(2)(b)1-21 shall be determined based on the analytical results obtained at each sampling point.

1. For systems which are conducting monitoring at a frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is greater than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately.

2. If monitoring is conducted annually, or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the Division, the determination of compliance will be based on the average of two samples.

3. If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the Division may allow the system to give public notice to only that area served by that portion of the system which is out of compliance.

(o) Analysis for the contaminants listed in Rule 391-3-5-.18(2)(b)1-21 shall be conducted in accordance with 40 CFR, Part 141.24(f)(17). These methods are contained in Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, December 1988 and are available from the National Technical Information Service (NTIS) NTIS PB91-231480 and PB91-146027, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

(p) Analysis under this section shall only be conducted by laboratories certified by the Division or laboratories certified by EPA in accordance with conditions listed in 40 CFR, Part 141.24(f)(17).

(q) The Division may allow the use of monitoring data collected after January 1, 1998 required under section 1445 of the Public Health Service Act, as amended by the Federal Safe Drinking Water Act, Public Law 93-523, for purposes of initial monitoring compliance. If the data are generally consistent with the other requirements in this section, the Division may use these data (i.e., a single sample rather than four quarterly samples) to satisfy the initial monitoring requirement of paragraph 1(d) of this section. Systems which use grandfathered samples and did not detect any contaminant listed in Rule 391-3-5-.18(2)(b)2-21 shall begin monitoring annually in accordance with paragraph 1(e) of this section.

(r) The Division may increase required monitoring where necessary to detect variations within the system.

(s) Each certified laboratory must determine the method detection limit (MDL), as defined in 40 CFR, Part 136 appendix B, at which it is capable of detecting VOCs. The acceptable MDL is 0.0005 mg/L. This concentration is the detection concentration for purposes of this section.

(t) Each public water system shall monitor at the time designated by the Division within each compliance period.

(2) **Initial Organic Monitoring.** For systems in operation before January 1, 1993, for purposes of initial monitoring, analysis of the contaminants listed in Rule 391-3-5-.18(2)(b)1-8 for purposes of determining compliance with the maximum contaminant levels shall be conducted as follows:

(a) Ground-water systems shall sample at points of entry to the distribution system representative of each well after any application of treatment. Sampling must be conducted at the same

location(s) or more representative location(s) every three months for one year except as provided in paragraph (2)(h) of this section.

(b) Surface water systems shall sample at points in the distribution system representative of each source or at entry points to the system after any application of treatment. Surface water systems must sample each source every three months except as provided in paragraph (2)(h) of this section. Sampling must be conducted at the same location or a more representative location each quarter.

(c) If the system draws water from more than one source and sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions.

(d) All community water systems and non-transient, non-community water systems serving more than 10,000 people shall analyze all distribution or entry-point samples, as appropriate, representing all source waters beginning no later than January 1, 1988. All community water systems and non-transient, non-community water systems serving from 3,300 to 10,000 people shall analyze all distribution or entry point samples, as required in this paragraph (2), representing source waters no later than January 1, 1989. All other community and non-transient, non-community water systems shall analyze distribution or entry-point samples as required in this paragraph (2), representing all source waters beginning no later than January 1, 1991.

(e) The Division may require confirmation samples for positive or negative results. If a confirmation sample(s) is required by the Division, then the sample results(s) should be averaged with the first sampling result and used for compliance determination in accordance with paragraph (2)(i) of this section. The Division has the discretion to delete results of obvious sampling errors from this calculation.

(f) Analysis for vinyl chloride is required only for ground water systems that have detected one or more of the following two-carbon organic compounds: Trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene. The analysis for vinyl chloride is required at each distribution or entry point at which one or more of the two-carbon organic compounds were found. If the first analysis does not detect vinyl chloride, the Division may reduce the frequency of vinyl chloride monitoring to once every three years for that sample location or other sample locations that are more representative of the same source. Surface water systems may be required to analyze for vinyl chloride at the discretion of the Division.

(g) The Division may allow compositing of up to five samples from one or more public water systems.

(h) The Division may reduce the monitoring frequency specified in paragraphs (2)(a) and (b) of this section as explained in this paragraph.

(i) Compliance with Rule 391-3-5-.18(2)(b) shall be determined based on the results of running annual average of quarterly sampling for each sampling location. If one location's average is greater than the MCL, then the system shall be deemed to be out of compliance. If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, only that part of the system that exceeds any MCL as specified in Rule 391-3-5-.18(2)(b) will be deemed out of compliance. The Division may reduce the public notice requirement to that portion of the system which is out of compliance. If any single sample result

would cause the annual average to be exceeded, then the system shall be deemed to be out of compliance immediately. For systems that only take one sample per location because no VOCs were detected, compliance shall be based on that one sample.

(j) Analysis under this section shall only be conducted by laboratories certified by the Division or have been certified by the EPA.

(k) The Division may allow the use of monitoring data collected after January 1, 1983, for purposes of monitoring compliance. If the data is consistent with other requirements of this section. The Division may use that data to represent the initial monitoring if the system is determined by the Division not to be vulnerable under the requirements of this section. In addition, the result of EPA's Ground Water Supply Survey may be used in a similar manner for systems supplied by a single well.

(l) The Division may increase required monitoring where necessary to detect variations within the system.

(m) The Division may determine compliance or initiate enforcement action based on analytical results or other information compiled by their sanctioned representatives and agencies.

(n) Each certified laboratory must determine the method detection limit (MDL), as defined in 40 CFR, Part 136 appendix B, at which it is capable of detecting VOCs. The acceptable MDL is 0.0005 mg/L. This concentration is the detection level for purposes of paragraphs 391-3-5-.22(2)(e), (f), and (g) of this section.

(3) **Ongoing Organic Monitoring.** Analysis of the contaminants listed in Rule 391-3-5-.18(2)(a) for the purposes of determining compliance with the maximum contaminant level shall be conducted as follows:

(a) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(b) Surface water systems shall take a minimum of one sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. [Note: For purposes of this paragraph, surface water systems include systems with a combination of surface and ground sources.]

(c) If the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water representative of all sources is being used).

(d) Monitoring frequency:

1. Each community and non-transient non-community water system shall take four consecutive quarterly samples for each contaminant listed in Rule 391-3-5-.18(2)(a) during each compliance period beginning with the compliance period starting January 1, 1993.

2. Systems serving more than 3,300 persons which do not detect a contaminant in the initial compliance period, may reduce the sampling frequency to a minimum of two quarterly samples

in one year during each repeat compliance period.

3. Systems serving less than or equal to 3,300 persons which do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of one sample during each repeat compliance period.

(e) Each community and non-transient water system may apply to the Division for a waiver from the requirement of paragraph (3)(d) of this section. A system must reapply for a waiver for each compliance period.

(f) The Division may grant a waiver after evaluating the factors in accordance with 40 CFR, Part 141.24(h)(6).

(g) If an organic contaminant listed in Rule 391-3-5-.18(2)(a) is detected (as defined by paragraph (3)(q) of this section) in any sample, then:

1. Each system must monitor quarterly at each sampling point which resulted in a detection.

2. The Division may decrease the quarterly monitoring requirement specified in paragraph (3)(g)1 of this section provided it has determined that the system is reliably and consistently below the maximum contaminant level. In no case shall the Division make this determination unless a groundwater system takes a minimum of two quarterly samples and a surface water system takes a minimum of four quarterly samples.

3. After the Division determines the system is reliably and consistently below the maximum contaminant level the Division may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter that previously yielded the highest analytical result.

4. Systems which have three (3) consecutive annual samples with no detection of a contaminant may apply to the Division for a waiver as specified in paragraph (3)(f) of this section.

5. If monitoring results in detection of one or more of certain related contaminants (aldicarb, aldicarb sulfone, aldicarb sulfoxide and heptachlor, heptachlor epoxide), then subsequent monitoring shall analyze for all related contaminants.

(h) Systems which violate the requirements of Rule 391-3-5-.18(2)(a) as determined by paragraph (3)(k) of this section must monitor quarterly. After a minimum of four quarterly samples show the system is in compliance and the Division determines the system is reliably and consistently below the MCL, as specified in paragraph (3)(k) of this section, the system shall monitor at the frequency specified in paragraph (3)(g)3 of this section.

(i) The Division may require a confirmation sample for positive or negative results. If a confirmation sample is required by the Division, the result must be averaged with the first sampling result and the average used for the compliance determination as specified by paragraph (3)(k) of this section. The Division has the discretion to delete results of obvious sampling errors from this calculation.

(j) The Division may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite sampling and their analysis shall be in accordance with 40 CFR, Part 141.24(h)(10).

(k) Compliance with Section 391-3-5-.18(2)(a) shall be determined based on the analytical results obtained at each sampling point.

1. For systems which are conducting monitoring at a frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is greater than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any samples below the detection limit shall be calculated as zero for purposes of determining the annual average.

2. If monitoring is conducted annually, or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the Division, the determination of compliance will be based on the average of two samples.

3. If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the Division may allow the system to give public notice to only that portion of the system which is out of compliance.

(l) Analysis for the contaminants listed in Section 391-3-5-.18(2)(a) shall be conducted in accordance with 40 CFR, Part 141.24(h)(12-13). These methods are contained in “Methods for the Determination of Organic Compounds in Drinking Water”, ORD Publications, CERI, EPA/600/4-88/039, December 1988.

(m) If monitoring data collected after January 1, 1990, are generally consistent with the requirements of Section 391-3-5-.22(3), then the Division may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(n) The Division may increase the required monitoring frequency, where necessary, to detect variations within the system (e.g., fluctuations in concentration due to seasonal use, changes in water source).

(o) The Division has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by their sanctioned representatives and agencies.

(p) Each public water system shall monitor at the time designated by the Division within each compliance period.

(q) Detection limits for contaminants used in this Section shall be in accordance with 40 CFR, Part 141.24(h)(18).

(r) Analysis under this section shall conform to paragraph (1) of Section 391-3-5-.29.

(s) The best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant level for organic contaminants in Section 391-3-5-.18(2)(a) and (2)(b) shall be in accordance with 40 CFR, Part 141.61(b).

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Organic Chemical Sampling and Analytical Requirements” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule of same title adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule of same title adopted. F. June 25, 1992; eff. July 15, 1992.

**Repealed:** New Rule, same title, adopted F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. June 8, 2001; eff. June 28, 2001.



**391-3-5-.23 Coliform Sampling. Amended.**

(1) **Routine Coliform Monitoring.**

(a) Public water systems must collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan. These plans are subject to Division review and revision.

(b) The minimum residential population of a community water system shall be determined by a mathematical calculation of the total number of active residential service connections multiplied by Georgia’s average population per household, as published in the most recent Federal Census Bureau Statistics. Multiple residential units served by a single connection (master meter) shall be included in the determination of population for a water system. The minimum monitoring frequency for total coliforms for community water systems is based on the population served by the system, as follows:

| <b>Population Served</b> | <b>Minimum Number of Samples per Month</b> |
|--------------------------|--|
| 25 to 1,000 <sup>1</sup> | 1  |
| 1,001 to 2,500           | 2  |
| 2,501 to 3,300           | 3  |
| 3,301 to 4,100           | 4  |
| 4,101 to 4,900           | 5  |
| 4,901 to 5,800           | 6  |
| 5,801 to 6,700           | 7  |
| 6,701 to 7,600           | 8  |
| 7,601 to 8,500           | 9  |
| 8,501 to 12,900          | 10   |
| 12,901 to 17,200         | 15   |
| 17,201 to 21,500         | 20   |
| 21,501 to 25,000         | 25   |
| 25,001 to 33,000         | 30   |
| 33,001 to 41,000         | 40   |
| 41,001 to 50,000         | 50   |
| 50,001 to 59,000         | 60   |
| 59,001 to 70,000         | 70   |
| 70,001 to 83,000         | 80   |
| 83,001 to 96,000         | 90   |
| 96,001 to 130,000        | 100  |
| 130,001 to 220,000       | 120  |
| 220,001 to 320,000       | 150  |
| 320,001 to 450,000       | 180  |
| 450,001 to 600,000       | 210  |
| 600,001 to 780,000       | 240  |
| 780,001 to 970,000       | 270  |
| 970,001 to 1,230,000     | 300  |
| 1,230,001 to 1,520,000   | 330  |

| <b>Population Served</b> | <b>Minimum Number of Samples per Month</b> |
|--------------------------|--|
| 1,520,001 to 1,850,000   | 360  |
| 1,850,001 to 2,270,000   | 390  |
| 2,270,001 to 3,020,000   | 420  |
| 3,020,001 to 3,960,000   | 450  |
| 3,960,001 or more        | 480  |

<sup>1</sup>Includes public water systems which have at least 15 service connections, but serve fewer than 25 persons.

If a community water system serving 25 to 1,000 persons has no history of total coliform contamination in its current configuration and a sanitary survey conducted in the past five years shows that the system is supplied solely by a protected ground water source and is free of sanitary defects, the Division may reduce the monitoring frequency specified above, except that in no case shall it be reduced to less than one sample per quarter.

(c) The monitoring frequency for total coliform for non-community water systems is as follows:

1. A non-community water system using only ground water (except ground water under the direct influence of surface water) and serving 1,000 persons or fewer must monitor each calendar quarter that the system provides water to the public, except that the Division may adjust this monitoring frequency in writing, if a sanitary survey shows that the system is free of sanitary defects.

2. A non-community water system using only ground water (except ground water under the direct influence of surface water) and serving more than 1,000 persons during any month must monitor at the same frequency as a like-sized community water system, except that the Division may adjust this monitoring frequency, in writing for any month the system serves 1,000 persons or fewer.

3. A non-community water system using surface water, in total or in part, must monitor at the same frequency as a like-sized community water system, regardless of the number of persons it serves.

4. A non-community water system using ground water under the direct influence of surface water must monitor at the same frequency as a like-sized community water system. The system must begin monitoring at this frequency beginning six months after the Division determines that the ground water is under the direct influence of surface water.

(d) The public water system must collect samples at regular time intervals throughout the month, except that a system which uses only ground water (except ground water under the direct influence of surface water), and serves 4,900 persons or fewer, may collect all required samples on a single day if they are taken from different sites.

(e) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, shall not be used to determine compliance with the MCL for total coliforms. Repeat samples are not considered special purpose samples, and must be used to determine compliance with the MCL for total coliforms.

(2) **Repeat Coliform Monitoring.**

(a) If a routine sample is total coliform-positive, the public water system must collect a set of repeat samples within 24 hours of being notified of the positive result. A system which collects more than one routine sample per month must collect no fewer than three repeat samples for each total coliform-positive sample found. A system which normally collects one routine sample per month or fewer must collect no fewer than four repeat samples for each total coliform-positive sample found. The Division may extend the 24- hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control.

(b) The system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system, the Division may waive the requirement to collect at least one repeat sample upstream or downstream of the original sampling site.

(c) The system must collect all repeat samples on the same day, except that the Division may allow a system with a single service connection to collect the required set of repeat samples over a four-day period.

(d) If one or more repeat samples in the set is total coliform-positive, the public water system must collect an additional set of repeat samples in the manner specified in this section. The additional samples must be collected within 24 hours of being notified of the positive result, unless the Division extends the limit as provided in this section. The system must repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms has been exceeded and notifies the Division.

(e) If a system collecting fewer than five routine samples per month has one or more total coliform-positive samples and the Division does not invalidate the sample(s), it must collect at least five routine samples during the next month the system provides water to the public, except that the Division may waive this requirement if the conditions specified below are met. The Division cannot waive the requirement for a system to collect repeat samples.

1. The Division may waive the requirement to collect five routine samples the next month the system provides water to the public if the Division, or an agent approved by the Division, performs a site visit before the end of the next month the system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the Division to determine whether additional monitoring and/or any corrective action is needed. The Division cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the Division to perform sanitary surveys.

2. The Division may waive the requirement to collect five routine samples the next month the system provides water to the public if the Division has determined why the sample was total coliform-positive and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. The Division cannot waive the requirement to collect five routine samples the next month the system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. Under this paragraph, a system must still take at least one routine sample before the end of the next month it serves water to the public and use it to determine compliance with the MCL for total coliforms,

unless the Division has determined that the system has corrected the contamination problem before the system took the set of repeat samples required above, and all repeat samples were total coliform-negative.

(f) After a system collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

(g) Results of all routine and repeat samples not invalidated by the Division must be included in determining compliance with the MCL for total coliforms.

(3) **Invalidation of Total Coliform Samples.** A total coliform-positive sample invalidated under this paragraph does not count towards meeting the minimum monitoring requirements of this Section.

(a) The Division may invalidate a total coliform-positive sample only if the conditions that follow below are met:

1. The laboratory establishes that improper sample analysis caused the total coliform--positive result.

2. The Division, on the basis of the results of repeat samples collected as required by this Section, determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The Division cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected within five service connections of the original tap are total coliform-negative (e.g., the Division cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the public water system has only one service connection).

3. The Division has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition which does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under this Section, and use them to determine compliance with the MCL for total coliforms. The Division may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

(b) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The Division may waive the 24-hour time limit on a case-by-case basis.

(4) **Sanitary Surveys.**

(a) All ground water systems must undergo sanitary surveys no less frequently than every three years for community systems, except as provided in paragraph (b) of this section, and no less frequently than every five years for non-community systems. The initial sanitary survey for each community ground water system must be conducted by December 31, 2012, unless the system meets requirements of paragraph (b) of this section.

(b) For community ground water systems determined by the Division to have outstanding performance based on prior sanitary surveys, or that provide at least 4-log (99.99%) treatment of viruses (using inactivation, removal, or a combination of the two) subsequent sanitary surveys may be conducted no less than every five years. The initial sanitary survey for community systems that meet these requirements and for each non-community system must be conducted by December 31, 2014.

(c) All surface water systems (including groundwater under the influence) must undergo sanitary surveys no less frequently than every three years for community systems and no less frequently than every five years for non-community systems. For community systems determined by the Division to have outstanding performance based on prior sanitary surveys, subsequent sanitary surveys may be conducted no less than every five years.

(d) Sanitary surveys must be performed by the Division or an agent approved by the Division. The system is responsible for ensuring the survey takes place.

(5) **Fecal Coliforms - *Escherichia coli* (*E. coli*) Testing.**

(a) If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if fecal coliforms are present, except that the system may test for *E. coli* in lieu of fecal coliforms. If fecal coliforms or *E. coli* are present, the system must notify the Division by the end of the day when the system is notified of the test result, unless the system is notified of the result after the Division office is closed, in which case the system must notify the Division before the end of the next business day.

(b) The Division has the discretion to allow a public water system, on a case-by-case basis, to forego fecal coliform or *E. coli* testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is fecal coliform-positive or *E. coli*-positive. Accordingly, the system must notify the Division as specified in this Section and the MCL applies.

(6) **Analytical Methodology.**

(a) The standard sample volume required for total coliform analysis, regardless of analytical method used, is 100 mL.

(b) Public water systems need only determine the presence or absence of total coliforms; a determination of total coliform density is not required.

(c) Public water systems must conduct total coliform analyses in accordance with 40 CFR 141.21.

(d) Public water systems must conduct fecal coliform analyses in accordance with 40 CFR 141.21.

(7) **Response to Violation.**

(a) A public water system which has exceeded the MCL for total coliforms must report the violation to the Division no later than the end of the next business day after it learns of the

violation, and notify the public in accordance with this chapter.

(b) A public water system which has failed to comply with a coliform monitoring requirement, including the sanitary survey requirement, must report the monitoring violation to the Division within ten days after the system discovers the violation, and notify the public in accordance with this chapter.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Alternative Analytical Techniques” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled “Microbiological Contaminant Sampling and Analytical Requirements” adopted. F. May 12, 1989; eff. June 1, 1989. **Repealed:** New Rule entitled “Coliform Sampling” adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### **391-3-5-.24 ~~Total Trihalomethanes~~ Disinfection Byproducts Sampling, Analytical and Other Requirements. Amended.**

(1) **Purpose.** The purpose of this Rule is to provide for the procedures for establishing maximum contaminant levels, monitoring and other requirements for trihalomethanes, disinfectant residuals, disinfection byproducts, and disinfection byproduct precursors.

(2) **Variations.** Variations from the maximum contaminant level for total trihalomethanes shall be conducted in accordance with 40 CFR, Part 142.60.

#### **(3) Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors.**

(a) Community water systems and non-transient, non-community water systems which add a chemical disinfectant to the water in any part of the drinking water treatment process must modify their practices to meet MCLs and MRDLs specified in subparagraph (7)(a) of Rule 391-3-5-.18, and must meet the treatment technique requirements for disinfection byproduct precursors specified in paragraph (10) of this section.

(b) Transient non-community water systems that use chlorine dioxide as a disinfectant or oxidant must modify their practices to meet the MRDL for chlorine dioxide specified in subparagraph (7)(a) of Rule 391-3-5-.18.

(c) Community Subpart H water systems and non-transient, non-community Subpart H water systems must comply with the requirements of this section, as specified in subparagraphs (7)(b) and (7)(c) of Rule 391-3-5-.18, respectively.

(d) Beginning January 1, 2002, transient non-community Subpart H water systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the requirements for chlorine dioxide and chlorite in this section.

(e) Beginning January 1, 2004, transient non-community Subpart H water systems serving fewer than 10,000 people and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the requirements for chlorine dioxide and chlorite in this section.

(f) Systems may increase residual disinfectant levels in the distribution system of chlorine or chloramines (but not chlorine dioxide) to a level and for a time necessary to protect public health, to address specific microbiological contamination problems caused by circumstances such as, but not limited to, distribution line breaks, storm run-off events, source water contamination events, or cross-connection events.

(g) Systems must use the analytical method(s) specified in 40 CFR § 141.131 to demonstrate compliance with the requirements of this section. The analytical requirements specified in 40 CFR § 141.131, which is hereby incorporated by reference, are required to demonstrate compliance with the requirements of subpart L (Disinfectant Residuals, Disinfection ByProducts, and Disinfection ByProduct Precursors), subpart U (Initial Distribution System Evaluations), and subpart V (Stage 2 Disinfection ByProducts Requirements) of 40 CFR Part 141.

(h) Monitoring Requirements. 40 CFR § 141.132, in its entirety, is hereby incorporated by reference. For compliance with the requirements of this section, the water systems must monitor the applicable parameters included in this section at the frequency specified in 40 CFR § 141.132. Failure to monitor will be treated as a violation for the entire period covered by the annual average where compliance is based on a running annual average of monthly or quarterly samples or averages and the system's failure to monitor makes it impossible to determine compliance with MCLs or MRDLs.

1. Systems must take all samples during normal operating conditions.
  2. Systems may consider multiple wells drawing water from a single aquifer as one treatment plant for determining the minimum number of TTHM and HAA5 samples required, with the Division approval.
  3. Systems may use only data collected under the provisions of this section to qualify for reduced monitoring.
  4. Each system required to monitor under this section must develop and implement a monitoring plan. The plan must include at least the following elements: specific locations and schedules for collecting samples for any parameters included in this section; how the system will calculate compliance with MCLs, MRDLs, and treatment techniques; and if approved for monitoring as a consecutive system, or if providing water to a consecutive system, the sampling plan must reflect the entire distribution system.
    - (i) The system must maintain the plan and make it available for inspection by the Division and the general public no later than thirty (30) days following applicable compliance dates stated in (c) of this section.
    - (ii) All Subpart H systems serving more than 3,300 people must submit a copy of the monitoring plan to the Division no later than the date of the first report required under 40 CFR § 141.134.
    - (iii) The Division may require a monitoring plan to be submitted by any other system. The Division may also require changes in any plan elements.
- (4) **Monitoring and Compliance for Disinfection Byproducts.** Monitoring for disinfection byproducts shall be conducted as specified in section 40 CFR § 141.132(b). Compliance with the disinfection byproducts requirements shall be determined in accordance with section 40 CFR § 141.133(b).
- (5) **Monitoring and Compliance for Disinfectant Residuals.** Monitoring for disinfectant residuals shall be conducted as specified in section 40 CFR § 141.132(c). Compliance with the disinfectant residuals requirements shall be determined in accordance with section 40 CFR § 141.133(c).
- (6) **Monitoring and Compliance for Disinfection Byproduct Precursors.** Monitoring for disinfection byproduct precursors shall be conducted as specified in section 40 CFR § 141.132(d). Compliance with the disinfection byproduct precursors requirements shall be determined in accordance with section 40 CFR § 141.133(c) and as specified by 40 CFR § 141.135(b).
- (7) **Non-Compliance in First Monitoring Year.** If, during the first year of monitoring under 40 CFR § 141.132, any individual quarter's average will cause the running annual



average of that system to exceed the MCL, the system shall be considered out of compliance at the end of that quarter.

(8) **Samples for Compliance Determination.** All samples taken and analyzed under the provisions of this section must be included in determining compliance, even if that number is greater than the minimum required. Compliance requirements specified in 40 CFR, Subpart L § 141.133 is hereby incorporated by reference.

(9) **Treatment Techniques.** Treatment techniques for control of disinfection byproduct precursors requirements specified in 40 CFR, Subpart L § 141.135 is hereby incorporated by reference.

(a) Subpart H systems using conventional filtration treatment (as defined in § 141.2) must operate with enhanced coagulation or enhanced softening to achieve the TOC percent removal levels specified in (iv) of this section unless the system meets at least one of the alternative compliance criteria specified in (ii) or (iii) of this section.

(b) Alternative compliance criteria for enhanced coagulation and enhanced softening systems: 40 CFR, Subpart L § 141.135(a)(2) is hereby incorporated by reference.

(c) Additional alternative compliance criteria for softening systems: 40 CFR, Subpart L, § 141.135(a)(3) is hereby incorporated by reference.

(d) Enhanced coagulation and enhanced softening performance requirements: 40 CFR, Subpart L § 141.135(b) is hereby incorporated by reference.

(e) Compliance calculations: 40 CFR, Subpart L § 141.135(c) is hereby incorporated by reference.

(f) Treatment technique requirements for disinfection byproduct precursors: 40 CFR, Subpart L § 141.135(d) is hereby incorporated by reference.

(g) Required additional health information: 40 CFR § 141.154 is hereby incorporated by reference.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Laboratory Approval” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule of same title adopted. F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule entitled “Trihalomethanes” adopted. F. May 12, 1989. eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule entitled “Total Trihalomethanes Sampling. Analytical and Other Requirements” adopted. F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. May 29, 2009; eff. June 16, 2009.

## **391-3-5-.25 Treatment Techniques, Lead and Copper Requirements.** **Amended.**

### (1) **General Requirements.**

(a) These requirements constitute the primary drinking water rules for lead and copper. Unless otherwise indicated, each of these provisions applies to community water systems and non-transient, non-community water systems (hereinafter referred to as “water systems” or “systems”).

(b) These rules establish a treatment technique that includes requirements for corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers’ taps.

(c) Lead and copper action levels:

1. The lead action level is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Section 391-3-5-.25(7) is greater than 0.015 mg/L.

2. The copper action level is exceeded if the concentration of copper in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Section 391-3-5-.25(7) is greater than 1.3 mg/L.

3. Calculation of the lead and copper action levels shall be based on the “90th percentile” rule in accordance with 40 CFR, Part 141.80(c)(3).

(d) Corrosion control treatment requirements:

1. All water systems shall install and operate optimal corrosion control treatment as defined in Section 391-3-5-.02(73).

2. Any water system that complies with the applicable corrosion control treatment requirements specified by the Division under Section 391-3-5-.25(2) and (3) shall be deemed in compliance with the treatment requirement contained in paragraph (d)(1) of this section.

(e) Source water treatment requirements; Any system exceeding the lead or copper action level shall implement all applicable source water treatment requirements specified by the “Division” under Section 391-3-5-.25(4).

(f) Lead service line replacement requirements; Any system exceeding the lead action level after implementation of applicable corrosion control and source water treatment requirements shall complete the lead service replacement requirements contained in Section 391-3-5-.25(5).

(g) Public education requirements; Pursuant to 40 CFR, Part 141.85, all water systems must provide a consumer notice of lead tap water monitoring results to persons served at the sites/taps that are tested. Any system exceeding the lead action level shall implement the public education requirements contained in Section 391-3-5-.25(6).

(h) Monitoring and analytical requirements; Tap water monitoring for lead and copper, monitoring for water quality parameters, source water monitoring for lead and copper, and

analyses of the monitoring results under this subpart shall be completed in compliance with Section 391-3-5-.25(7)-(10).

(i) Reporting requirements; Systems shall report to the Division any information required by the treatment provisions of this subpart and Section 391-3-5-.30(7).

(j) Record keeping requirements; Systems shall maintain records in accordance with Section 391-3-5-.15.

(k) Violation of national primary drinking water regulations; Failure to comply with the applicable requirements of Section 391-3-5-.25(1)-(10), including requirements established by the Division pursuant to the provisions, shall constitute a violation of the national primary drinking water regulations for lead and/or copper.

(l) The maximum contaminant level goals (MCLGs) for lead and copper are as follows:

| Contaminant | MCLG (mg/L) |
|-------------|-------------|
| Copper      | 1.3         |
| Lead        | 0 (zero)    |

**(2) Applicability of Corrosion Control Treatment Steps to Small, Medium and Large Water Systems.**

(a) Systems shall complete the applicable corrosion control treatment requirements described in Section 391-3-5-.25(3) by the deadlines established in this section.

1. A large system (serving more than 50,000 persons) shall complete the corrosion control treatment steps specified in paragraph (d) of this section, unless it is deemed to have optimized corrosion control under paragraph (b)2. or (b)3. of this section.

2. A small system (serving less than 3,301 persons) and a medium-size system (serving more than 3,300 and less than 50,001 persons) shall complete the corrosion control treatment steps specified in paragraph (d) of this section, unless it is deemed to have optimized corrosion control under paragraph (b)1., (b)2., or (b)3. of this section.

(b) A system is deemed to have optimized corrosion control and is not required to complete the applicable control treatment steps identified in this section if the system satisfies one of the criteria specified in paragraphs (b)1. through (b)3. of this section. Any such system deemed to have optimized corrosion control under this paragraph, and which has treatment in place, shall continue to operate and maintain optimal corrosion control treatment and meet any requirements that the State determines appropriate to ensure optimal corrosion control treatment is maintained.

1. A small or medium-size water system is deemed to have optimized corrosion control if the system meets the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with Section 391-3-5-.25(7).

2. Any water system may be deemed by the Division to have optimized corrosion control treatment if the system demonstrates to the satisfaction of the Division that it has conducted activities equivalent to the corrosion control steps applicable to such system under this section. If the Division makes this determination, it shall provide the system with written notice explaining the basis for its decision and shall specify the water quality control parameters representing optimal corrosion control in accordance with Section 391-3-5-.25(3).

Water systems deemed to have optimized corrosion control under this paragraph shall operate in compliance with the Division designated optimal water quality control parameters in accordance with 391-3-5-~~25(8)(e)~~1.25(3) and continue to conduct lead and copper tap water quality parameter sampling in accordance with Rule sections 391-3-5-.25(7)(d)3. and 391-3-5-.25(8)(d). A system shall provide the Division with the following information in order to support a determination under this paragraph.

(i) the results of all test samples collected for each of the water quality parameters in Section 391-3-5-.25(3).

(ii) a report explaining the test methods used by the water system to evaluate the corrosion control treatments listed in Section 391-3-5-.25(3), the results of all tests conducted, and the basis for the system's selection of optimal corrosion control treatment.

(iii) a report explaining how corrosion control has been installed and how it is being maintained to insure minimal lead and copper concentrations at consumers' taps.

(iv) the results of tap water samples collected in accordance with Section 391-3-5-.25(7) at least once every six months for one year after corrosion control has been installed.

3. Any water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with Section 391-3-5-.25(7) and source water monitoring conducted in accordance with Section 391-3-5-.25(9) that demonstrates for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level computed under Section 391-3-5-.25(1)(c)3., and the highest source water lead concentration, is less than the Practical Quantitation Level for lead specified in Section 391-3-5-.25(10).

(i) Those systems whose highest source water lead level is below the Method Detection Limit may also be deemed to have optimized corrosion control under this paragraph if the 90th percentile tap water lead levels is less than or equal to the Practical Quantitation Level for the lead for two consecutive 6-month monitoring periods.

(ii) Any system deemed to have optimized corrosion control in accordance with this paragraph shall continue monitoring for lead and copper at the tap no less frequently than once every three calendar years using the reduced number of sites specified in Rule 391-3-5-.25(7)(c) and collecting samples at times and locations specified in Rule 391-3-5-.25(7)(d)4.

(iii) Any water system deemed to have optimized corrosion control pursuant to this paragraph shall notify the Division in writing pursuant to Rule 391-3-5-.25(11) of any upcoming long-term change in treatment or addition of a new source. The Division must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The Division may require any system to conduct additional monitoring or to take other action the Division deems appropriate to ensure that such systems maintain minimal levels of corrosion in the distribution system.

(iv) As of July 12, 2001, a system is not deemed to have optimized corrosion control under this paragraph, and shall implement corrosion control treatment pursuant to paragraph (2)(b) 3.(v) of this section unless it meets the copper action level.

(v) Any system triggered into corrosion control because it is no longer deemed to have optimized corrosion control under this paragraph shall implement corrosion control treatment

in accordance with the deadlines in paragraph (d) of this section. Any such large system shall adhere to schedule specified in that paragraph for medium-size systems, with the time periods for completing each step being triggered by the date the system is no longer deemed to have optimized corrosion control under this paragraph.

(c) Any small or medium-size water system that is required to complete the corrosion control steps due to its exceedance of the lead or copper action level may request approval from the Division to cease completing the treatment steps if the system meets both lead and copper action levels during each of two consecutive monitoring periods conducted pursuant to Section 391-3-5-.25(7) and submits the results to the Division. If approval is granted, any such water system thereafter exceeds the lead or copper action level during any monitoring period, the system (or the Division, as the case may be) shall recommence completion of the applicable treatment steps, beginning with the first treatment step which was not previously completed in its entirety. The Division may require a system to repeat treatment steps previously completed by the system where the Division determines that this is necessary to implement properly the treatment requirements of this section. The Division shall notify the water system in writing of such a determination and explain the basis for its decision. The requirement for any small- or medium-size water system to implement corrosion control treatment steps in accordance with paragraph (d) of this section (including, water systems deemed to have optimized corrosion control under paragraph (b)1. of this section) is triggered whenever any small- or medium-size water system exceeds the lead or copper action level.

(d) Treatment steps and deadlines for all systems affected by this rule shall be in accordance with 40 CFR, Part 141.81(d) and (e).

(3) **Description of Corrosion Control Treatment Requirements.** Each system shall complete the corrosion control treatment requirements as described and in accordance with 40 CFR Part 141.82 and as approved by the Division.

(4) **Source Water Treatment Requirements.** Systems shall complete the applicable source water monitoring and treatment requirements, described in the referenced portions of paragraph (b) of this section, and in Section 391-3-5-.25(7) and (9) by the following deadlines.

(a) Deadlines for Completing Source Water Treatment Steps.

1. Step 1: A system exceeding the lead or copper action level shall complete lead and copper source water monitoring (Section 391-3-5-.25(9)(b)) and make a treatment recommendation to the Division (Section 391-3-5-.25(4)(b)1.) no later than 180 days after the end of the monitoring period in which the lead or copper action level was exceeded.

2. Step 2: The Division shall make a determination regarding source water treatment (Section 391-3-5-.25(4)(b)2.) within 6 months after submission of monitoring results under Step 1.

3. Step 3: If the Division requires installation of source water treatment, the system shall install the treatment (Section 391-3-5-.25(4)(b)3.) within 24 months after completion of Step 2.

4. Step 4: The system shall complete follow-up tap water monitoring for lead and copper (Section 391-3-5-.25(7)(d)2.) and source water monitoring for lead and copper (Section 391-3-5-.25(9)(c)) within 36 months after completion of Step 2.

5. Step 5: The Division shall review the system's installation and operation of source water treatment and specify maximum permissible source water levels (Section 391-3-5-.25(4)(b)4.) within 6 months after completion of Step 4.

6. Step 6: The system shall operate in compliance with the Division specified maximum permissible lead and copper source water levels (Section 391-3-5-.25(4)(b)4.) and continue source water monitoring for lead and copper (Section 391-3-5-.25(9)(d)).

(b) Description of Source Water Treatment Requirements:

1. System treatment recommendation. Any system which exceeds the lead or copper action level shall recommend in writing to the Division the installation and operation of one of the source water treatments listed in paragraph (b)2. of this section. A system may recommend that no treatment be installed based upon a demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps.

2. Division determination regarding source water treatment. The Division shall complete an evaluation of the results of all source water samples submitted by the water system to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps. If the Division determines that treatment is needed, the Division shall either require installation and operation of the source water treatment recommended by the system (if any) or require the installation and operation of another source water treatment such as: ion exchange, reverse osmosis, lime softening or coagulation/filtration. If the Division requests additional information to aid in its review, the water system shall provide the information by the date specified by the Division in its request. The Division shall notify the system in writing of its determination and set forth the basis for its decision.

3. Installation of source water treatment. Each system shall properly install and operate the source water treatment designated by the Division under paragraph (b)2. of this section.

4. Division review of source water treatment and specification of maximum permissible source water levels. The Division shall review the source water samples taken by the water system both before and after the system installs source water treatment, and determine whether the system has properly installed and operated the source water treatment designated by the Division. Based upon its review, the Division shall designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. Such levels shall reflect the contaminant removal capability of the treatment properly operated and maintained. The Division shall notify the system in writing and explain the basis for its decision.

5. Continued operation and maintenance. Each water system shall maintain lead and copper levels below the maximum permissible concentrations designated by the Division at each sampling point monitored in accordance with Section 391-3-5-.25(9). The system is out of compliance with this paragraph if the level of lead and/or copper at any sampling point is greater than the maximum permissible concentration designated by the Division.

6. Modification of Division treatment decisions. Upon its own initiative or in response to a request by a water system or other interested party, the Division may modify its determination of the source water treatment under paragraph (2) of this section, or maximum permissible lead and copper concentrations for finished water entering the distribution system under paragraph (4) of this section. A request for modification by a system or other interested party



shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The Division may modify its determination where it concludes that such change is necessary to ensure that the system continues to minimize lead and copper concentrations in source water. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the Division's decision, and provide an implementation schedule for completing the treatment modifications.

7. EPA may review treatment determinations made by the Division and issue federal treatment determinations as outlined in 40 CFR, Part 141.83(b)(7).

(5) **Lead Service Line Replacement Requirements.** Systems may be required to replace lead service lines when they fail to meet the lead action level in tap samples. 40 CFR, Part 141.84 describes the conditions that will require lead service line replacement.

(6) **Public Educational and Supplemental Monitoring Requirements.** All water systems must deliver a consumer notice of lead tap water monitoring results to persons served by the water system at the sites/taps that are tested. A water system that exceeds the lead action level based on tap water samples collected in accordance with Section 391-3-5-.25(7) shall carry out a public education program as described in 40 CFR, Part 141.85.

(7) **Monitoring Requirements for Lead and Copper in Tap Water.**

(a) Sample site location.

1. By the applicable date for commencement of monitoring under paragraph (d)1. of this section, each water system shall complete a materials evaluation of its distribution system. In order to identify a pool of targeted sampling sites that meets the requirements of this section, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required in paragraph (c) of this section. All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites may not include faucets that have point-of-use or point-of-entry treatment devices.

2. A water system shall use the information on lead, copper, and galvanized steel that it is required to collect under Section 391-3-5-.26(3) of this part [special monitoring for corrosivity characteristics] when conducting a materials evaluation. When an evaluation of the information collected pursuant to Section 391-3-5-.26(3) is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in paragraph (a)1. of this section, the water system shall review the sources of information listed below in order to identify a sufficient number of sampling sites. In addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):

(i) all plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;

(ii) all inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and

(iii) all existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be

particularly susceptible to high lead or copper concentrations.

3. The sampling sites selected for a community water system's sampling pool ("tier 1 sampling sites") shall consist of single family structures that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line. When multiple-family residences comprise at least 20 percent of the structures served by a water system, the system may include these types of structures in its sampling pool.

4. Any community water system with insufficient tier 1 sampling sites shall complete its sampling pool with "tier 2 sampling sites", consisting of buildings, including multiple-family residences that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line.

5. Any community water system with insufficient tier 1 and tier 2 sampling sites shall complete its sampling pool with "tier 3 sampling sites", consisting of single family structures that contain copper pipes with lead solder installed before 1983. A community water system with insufficient tier 1, tier 2, and tier 3 sampling sites shall complete its sampling pool with representative sites throughout the distribution system. For the purpose of this paragraph, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

6. The sampling sites selected for a non-transient non-community water system ("tier 1 sampling sites") shall consist of buildings that:

- (i) contain copper pipes with lead solder installed after 1982 or contain lead pipes; and/or
- (ii) are served by a lead service line.

7. A non-transient non-community water system with insufficient tier 1 sites that meet the targeting criteria in paragraph (a)6. of this section shall complete its sampling pool with sampling sites that contain copper pipes with lead solder installed before 1983. If additional sites are needed to complete the sampling pool, the nontransient non-community water system shall use representative sites throughout the distribution system. For the purpose of this paragraph, a representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system.

8. Any water system whose sampling pool does not consist exclusively of tier 1 sites shall demonstrate to the Division under Section 391-3-5-.25(11) why a review of the information listed in paragraph (a)2. of this section was inadequate to locate a sufficient number of tier 1 sites. Any community water system which includes tier 3 or other representative sampling sites in its sampling pool shall demonstrate why it was unable to locate a sufficient number of tier 1 and tier 2 sampling sites.

9. Any water system whose distribution system contains lead service lines shall draw 50 percent of the samples it collects during each monitoring period from sites that contain lead pipes, or copper pipes with lead solder, and 50 percent of those samples from sites served by a lead service line. A water system that cannot identify a sufficient number of sampling sites



served by lead service line shall collect first draw samples from all of the sites identified as being served by such lines.

(b) Sample collection methods.

1. All tap samples for lead and copper collected in accordance with this subpart, with the exception of lead service line samples collected under Section 391-3-5-.25(5), shall be first draw samples.

2. Each first-draw tap sample for lead and copper shall be one liter in volume and must have stood motionless in the plumbing system of each sampling site for at least six hours. First draw samples from residential housing shall be collected from the cold-water kitchen or bathroom sink tap. First-draw samples from a non-residential building shall be one liter in volume and shall be collected at an interior tap from which is typically drawn for consumption. First draw samples may be collected by the system or the system may allow residents to collect first draw samples after instructing the residents of the sampling procedures specified in this paragraph. To avoid problems of residents handling nitric acid, acidification of first-draw samples may be done up to fourteen (14) days after the sample is collected. After acidification to resolubilize the metals, the sample must stand in the original container for the time specified in the approved EPA method before the sample can be analyzed. If a system allows residents to perform sampling, the system may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.

3. Each service line sample shall be one liter in volume and have stood motionless in the lead service line for at least six hours. Lead service line samples shall be collected in one of the following three ways:

(i) at the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;

(ii) tapping directly into the lead service line; or

(iii) if the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

4. A water system shall collect each first draw tap sample from the same sampling site from which it collected a previous sample. If, for any reason, the water system cannot gain entry to a sampling site in order to collect a follow-up tap sample or a particular site is no longer available, the system may collect the follow-up tap sample from another sampling site in its sampling pool as long as the new site meets the same targeting criteria, and is within reasonable proximity of the original site.

5. A non-transient non-community water system, or a community water system that meets the criteria of Rule 391-3-5-.25(7)(a)3. – 7. that does not have enough taps that can supply first-draw samples, as defined in Rule 391-3-5-.25(7)(b)2., must collect multiple samples from available sites/taps, provided the samples are collected at different times and/or on different days in order to meet the “first-draw”/6-hour minimum non-use time criteria.

(c) Number of samples.

Water systems shall collect at least one sample during each monitoring period specified in paragraph (d) of this section from the number of sites listed in the first column below (“# of Sites Standard Monitoring”) of the table in this paragraph. A system conducting reduced monitoring under paragraph (d)4. of this section shall collect at least one sample from the number of sites specified in the second column (“# of Sites Reduced Monitoring”) of the table in this paragraph during each monitoring period specified in paragraph (d)4. of this section. Such reduced monitoring sites shall be representative of the sites required for standard monitoring. States may specify sampling locations when a system is conducting reduced monitoring. The table is as follows:

| <b>System Size<br/>Number of People Served</b> | <b>Number of Sites<br/>Standard Monitoring</b> | <b>Number of Sites<br/>Reduced Monitoring</b> |
|--|--|---|
| <b>&gt;100,001 <u>or more</u></b>              | 100  | 50  |
| 10,001 to 100,000                              | 60   | 30  |
| 3,301 to 10,000                                | 40   | 20  |
| 501 to 3,300                                   | 20   | 10  |
| 101 to 500                                     | 10   | 5   |
| <b>≤100 <u>or fewer</u></b>                    | 5  | 5   |

(d) Timing of monitoring.

1. Initial tap sampling: Two consecutive six-month periods, between January-June and between July-December.

(i) All large systems shall monitor at the required number of standard monitoring sites during two consecutive six-month periods.

(ii) All small and medium-size systems shall monitor at the required number of standard monitoring sites during each six-month monitoring period until:

(I) the system exceeds the lead or copper action level and is therefore required to implement the corrosion control treatment requirements under Section 391-3-5-.25(2), in which case the system shall continue monitoring in accordance with paragraph (d)2. of this section, or

(II) the system meets the lead or copper action levels during two consecutive six-month monitoring periods, in which case the system may reduce monitoring in accordance with paragraph (d)4. of this section.

2. Monitoring after installation of corrosion control and source water treatment.

(i) Any large system which installs optimal corrosion control treatment pursuant to Section 391-3-5-.25(2)(d) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 391-3-5-.25(2)(d).

(ii) Any small or medium-size system which installs optimal corrosion control treatment pursuant to Section 391-3-5-.25(2) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 391-3-5-.25(2)(d).

(iii) Any system which installs source water treatment pursuant to Section 391-3-5-.25(4)(a)3. shall monitor during two consecutive six-month monitoring periods by the date

specified in Section 391-3-5-.25(4)(a)4.

3. Monitoring after Division specifies water quality parameter values for optimal corrosion control. After the Division specifies the value for water quality control parameters under Section 391-3-5-.25(3), the system shall monitor during each subsequent six-month monitoring period, with the first monitoring period to begin on the date the Division specifies the optimal values under Section 391-3-5-.25(3).

4. Reduced monitoring.

(i) A small or medium-size water system that meets the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples in accordance with paragraph (c) of this section, and reduce the frequency of sampling to once per year between the months of June and September of the calendar year immediately following the end of the second consecutive six-month monitoring period.

(ii) Any water system that meets the lead and copper action levels and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-5-.25(3) during each of two consecutive six-month monitoring periods may reduce the frequency of monitoring to once per year between the months of June and September and reduce the number of lead and copper samples in accordance with paragraph (c) of this section if it receives written approval from the division. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period. The Division shall review monitoring, treatment, and other relevant information submitted by the water system in accordance with 391-3-5-.25(11) ~~and shall determine when the system is eligible to reduce the frequency of monitoring to once every three years. and shall notify the water system in writing when the Division determines the water system is eligible to commence reduced monitoring to once every three (3) years pursuant to this paragraph.~~ The Division shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.

(iii) Any A small or medium-size water system that meets the lead and copper action levels during three consecutive years of monitoring may reduce the frequency of monitoring for lead and copper from annually to once every three years. Sampling must still occur between the months of June and September of the year in which monitoring is required. Any water system that meets the lead and copper action levels and maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-5-.25(3) during three consecutive years of monitoring may reduce the frequency from annually to once every three years if it receives written approval from the Division. Samples collected once every three years must be collected no later than every third calendar year. The Division shall review monitoring, treatment, and other relevant information submitted by the water system in accordance with 391-3-5-.25(11) and shall notify the system in writing when it determines the system is eligible to reduce the frequency of monitoring to once every three years. The Division shall review, and where appropriate, revise its determination when the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available.

(iv) A water system that reduces the number and frequency of sampling shall collect these samples from representative sites included in the original pool of targeted sampling sites identified in paragraph (a)1. of this section. Systems sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August or September unless the Division has approved a different sampling period in accordance with paragraph (d)4.(iv)(1) of this section.

(I) The Division, at its discretion, may approve a different period for conducting the lead and copper tap sampling for systems collecting a reduced number of samples. Such a period shall be no longer than four consecutive months and must represent a time of normal operation where the highest levels of lead are most likely to occur. For non-transient non-community water system that does not operate during the months of June, through September, and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the Division shall designate a period that represents a time of normal operation for the system. Any alternate reduced monitoring must meet criteria set forth in 40 CFR, part 141.86(d)(4)(iv)(A).

(II) Systems monitoring annually, that have been collecting samples during the months of June through September and that receive Division approval to alter their sample collection period under paragraph (d)4.(iv)(I) of this section, must collect their next round of samples during a time period that ends no later than 21 months after the previous round of sampling. Systems monitoring triennially that have been collecting samples during the months of June through September, and receive Division approval to alter the sampling collection period per paragraph (d)4.(iv)(I) of this section, must collect their next round of samples during a time period that ends no later than 45 months after the previous round of sampling. Subsequent rounds of sampling must be collected annually or triennially, as requested by this section. Small systems with waivers, granted pursuant to paragraph (g) of this section, that have been collecting samples during the months of June through September ~~and choose~~ and receive Division approval to alter their sample collection period under paragraph (d)4.(iv)(I) of this section must collect their next round of samples before the end of the 9-year period.

(v) Any water system that demonstrates for two consecutive 6- month monitoring periods that the tap water lead level computed under Rule 391-3-5-.25(1)(c)3. is less than or equal to 0.005 mg/L and the tap water copper level computed under Rule 391-3-5- .25(1)(c)3. is less than or equal to 0.65 mg/L may reduce the number in accordance with paragraph (3) of this section and reduce the frequency of sampling to once every three calendar years.

(vi)(I) A small or medium-size water system subject to reduced monitoring that exceeds the lead or copper action level shall resume sampling in accordance with paragraph (d)3.of this section and collect the number of samples for standard monitoring under paragraph (c) of this section. Such a system shall also conduct water quality parameter monitoring in accordance with 40 CFR, Part 141.87(b), (c) or (d) (as appropriate) during the monitoring period in which it exceeded the action level. Any such system may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in paragraph (c) of this section after it has completed two consecutive six-month rounds of monitoring with no action level exceeded.

(II) Any water system subject to the reduced monitoring frequency that fails to meet the lead or copper action level during any four-month monitoring period or that fails to operate at or

above the minimum value or within the range of values for the water quality parameters specified by the Division for more than nine days in any six-month monitoring period shall conduct tap water sampling for lead and copper at the frequency specified in paragraph (d)3. of this section, collect the number of samples specified for standard monitoring under paragraph (c) of this section, and shall resume monitoring for water quality parameters within the distribution system in accordance with 40 CFR, Part 141.87(d). This standard tap water sampling shall begin no later than the six-month period beginning January 1 of the calendar year following the lead or copper action level exceedance or water quality parameter excursion. Such a system may resume reduced monitoring for lead and copper at the tap and for water quality parameters within the distribution system under the following conditions:

I. The system may resume annual monitoring for lead and copper at the tap at the reduced number of sites specified in paragraph (c) of this section after it has completed two consecutive six-month rounds of monitoring that meet both lead and copper action levels and the system has received written approval from the Division that it is appropriate to resume reduced monitoring on an annual frequency. This sampling shall begin during the calendar year immediately following the end of the second consecutive six-month monitoring period.

II. The system may resume triennial monitoring for lead and copper at the tap at the reduced number of sites after it demonstrates through subsequent rounds of monitoring that it meets the action level criteria for lead and copper and has received approval from the Division that it is appropriate to resume triennial monitoring.

III. The system may reduce the number of water quality parameter tap water samples required and the frequency with which it collects such samples in accordance with 40 CFR, Part 141.87(e)(1) and (2). Such a system may not resume triennial monitoring for water quality parameters at the tap until it demonstrates that it has re-qualified for triennial monitoring, in accordance with 40 CFR, Part 141.87(e)(2).

(vii) Any water system subject to a reduced monitoring frequency under paragraph (d)(4) of this section shall notify the Division in writing of any upcoming long-term change in treatment or addition of a new source as described in 40 CFR, Part 141.90(a)(3). The Division must review and approve the addition of a new source or long-term change in water treatment before it is implemented by the water system. The Division may require the system to resume sampling in accordance with paragraph (7)(d)3. of this section and collect the number of samples specified for standard monitoring under paragraph (7)(c) of this section or take other appropriate steps such as increased water quality parameter monitoring or re-evaluation of its corrosion control treatment given the potentially different water quality considerations.

(e) Additional monitoring by systems. The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the system and the Division in making any determinations (i.e., calculating the 90th percentile lead or copper level) under this subpart or 40 CFR Part 141.82.

(f) Invalidation of lead or copper tap water samples. A sample invalidated under this paragraph does not count toward determining lead or copper 90th percentile levels under 391-3-5-.25(1)(c) or toward meeting the minimum monitoring requirements of paragraph (c) of this section.

1. The Division may invalidate a lead or copper tap water sample if at least one of the following conditions is met.

- (i) The laboratory establishes that improper sample analysis caused erroneous results.
  - (ii) The Division determines that the sample was taken from a site that did not meet the site selection criteria of this section.
  - (iii) The sample container was damaged in transit.
  - (iv) There is substantial reason to believe that the sample was subject to tampering.
2. The system must report the results of all samples to the Division and all supporting documentation for samples the system believes should be invalidated.
  3. To invalidate a sample under paragraph (f)1. of this section, the decision and the rationale for the decision must be documented in writing. The Division may not invalidate a sample solely on the grounds that a follow-up sample result is higher or lower than that of the original sample.
  4. The water system must collect replacement samples for any samples invalidated under this section if, after the invalidation of one or more samples, the system has too few samples to meet the minimum requirements of paragraph (c) of this section. Any such replacement samples must be taken as soon as possible, but no later than 20 days after the date the Division invalidates the sample or by the end of the applicable monitoring period, whichever occurs later. Replacement samples taken after the end of the applicable monitoring period shall not be used to meet the monitoring requirements of a subsequent monitoring period. The replacement samples shall be taken at the same locations as the invalidated samples or, if that is not possible, at locations other than those already used for sampling during the monitoring period.

(g) Monitoring waivers for small systems. Any small system that meets the criteria of 40 CFR, Section 141.86(g) may apply to the Division to reduce the frequency of monitoring for lead and copper.

(8) **Monitoring Requirements for Water Quality Parameters.** All large water systems and all small and medium-size systems that exceed the lead or copper action level shall monitor water quality parameters in addition to lead and copper in accordance with this section. The requirements of this section are summarized in a table at the end of 40 CFR, Part 141.87.

(a) Systems will have to monitor water quality parameters at different locations.

1. Representative taps throughout the distribution system (system can use total coliform sample sites). The system should take into account the number of persons served, the different sources of water, the different treatment methods employed by the system, and seasonal variability.
2. Samples are to be collected of the treated water from each source before entry point to the distribution system. If the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).
3. Number of samples.
  - (i) Systems shall collect two tap samples for applicable water quality parameters during each monitoring period as described in paragraphs (b) thru (e) of this section. The following



number of sites is required:

Distribution System Tap Sampling Requirements for Water Quality Parameters. (Other Than Lead and Copper)

| System Size<br>Number of People Served | Number of Distribution Sampling Sites |
|--|---------------------------------------|
|  | Base Monitoring                       |
| ≥100,001 <u>or more</u>                | 25                                    |
| 10,001 to 100,000                      | 10                                    |
| 3,301 to 10,000                        | 3                                     |
| 501 to 3,300                           | 2                                     |
| 101 to 500                             | 1                                     |
| ≤100 <u>or fewer</u>                   | 1                                     |

(ii) Except as provided in paragraph (c) of this section, systems shall collect two samples for each water quality parameter at each entry point to the distribution system during each monitoring period as described in paragraph (b) of this section. During each monitoring period specified in paragraphs (c)-(e) of this section, systems shall collect one sample for each applicable water quality parameter at each entry point to the distribution system.

(b) Initial Sampling - All large water systems shall measure the water quality parameters listed below at distribution system taps and at each entry point to the distribution system during each six-month monitoring period (specified in Section 391-3-5-.25(7)(d)1.).

1. pH;
2. alkalinity;
3. calcium;
4. conductivity;
5. orthophosphate, when an inhibitor containing phosphate is used;
6. silica, when an inhibitor containing silica is used;
7. Water temperature.

(c) Monitoring after installation of corrosion control. All large systems which install optimal corrosion control treatment according to Section 391-3-5-.25(7)(d)2.(i) shall measure water quality parameters at the locations and frequencies listed below during each six month monitoring period. All small or medium size systems which install optimal corrosion treatment shall conduct such monitoring during each six-month monitoring period specified in Section 391-3-5-.25(7)(d)2.(ii) only when the system exceeds the lead and copper action level.

1. At the required number of distribution system sites/taps, two samples every six months for:
  - (i) pH;
  - (ii) alkalinity;
  - (iii) orthophosphate, when an inhibitor containing phosphate is used;

- (iv) silica, when an inhibitor containing silica is used;
- (v) calcium;

2. At each entry point to the distribution system, one sample every two weeks for:

- (i) pH;
- (ii) when alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration.
- (iii) when a corrosion inhibitor is used as part of optimal corrosion control, a reading of the dosage rate of the inhibitor used, and the concentration of orthophosphate or silica.

(d) Monitoring after the Division specifies water quality parameter values for optimal corrosion control will be as follows. The Division will specify the values for applicable water quality control parameters reflecting optimal corrosion control treatment in accordance with 40 CFR Part, 141.82(f). All large systems shall measure the applicable water quality parameters in accordance with paragraph (c) of this section and determine compliance with the requirements of 391-3-5-.25(7)(d)3 every six months with the first six-month period to begin on January 1 or July 1, whichever comes first, after the Division specifies optimal values under 40 CFR, Part 141.82(f). Any small or medium-size system shall conduct such monitoring during each six-month period specified in this paragraph in which the system exceeds the lead and/or copper action level(s). For any such small and medium-size system that is subject to a reduced monitoring frequency pursuant to 391-3- 5-.25(7)(d)4. at the time of the action level exceedance, the start of the applicable six-month period under this paragraph shall coincide with the start of the applicable monitoring period under 391-3-5-.25(7)(d)4. Compliance with the division-designated optimal water quality parameter values shall be determined as specified under 391-3-5-.25(7)(d)3.

(e) Reduced monitoring for water quality parameters.

1. Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment during each of two consecutive six-month monitoring periods under paragraph (d) of this section shall continue monitoring at the entry point(s) to the distribution system as specified in paragraph (c)2. of this section. Such system may collect two tap samples for applicable water quality parameters from the following reduced number of sites during each six-month monitoring period.

| System Size<br>Number of People Served | Number of Distribution Sampling Sites<br>Reduced Monitoring |
|--|---|
| >100,001 <u>or more</u>                | 10  |
| 10,001 to 100,000                      | 7   |
| 3,301 to 10,000                        | 3   |
| 501 to 3,300                           | 2   |
| 101 to 500                             | 1   |
| ≤100 <u>or fewer</u>                   | 1   |

2.(i) Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Division under Section 391-3-



5-.25(3) during three consecutive years of monitoring may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters specified in paragraph (e)1. of this section from every six months to annually. This sampling begins during the calendar year immediately following the end of the monitoring period in which the third consecutive year of six-month monitoring occurs. Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Division during three consecutive years of annual monitoring under this paragraph may reduce the frequency with which it collects the number of tap samples for applicable water quality parameters from annually to every three years. This sampling begins no later than the third calendar year following the end of the monitoring period in which the third consecutive year of monitoring occurs.

(ii) A water system may reduce the frequency with which it collects tap samples for applicable water quality parameters specified in paragraph (e)1. of this section to every three years if it demonstrates during two consecutive monitoring periods that its tap water lead level at the 90th percentile is less than or equal to the practical quantitation limit (PQL) for lead specified in 391- 3-5-.25(10), that its tap water copper level is less than or equal to 0.65 mg/L for copper in 391-3-5-.25(2)(c), and that it also has maintained the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the division under 391-3-5-.25(2)(d). Monitoring conducted every three years must be done no later than every third calendar year.

3. A water system that conducts sampling annually shall collect these samples evenly throughout the year so as to reflect seasonal variability.

4. Any water system subject to reduced monitoring frequency that fails to operate at or above the minimum value within the range of values for the water quality parameters specified by the Division under Section 391-3-5-.25(3) shall resume distribution system tap water sampling in accordance with the number and frequency requirements in paragraph (d) of this section. Such a water system may resume annual monitoring for water quality parameters at the tap at the reduced number of sites specified under Section 391-3-5-.25(8)(e)1. after it has completed two subsequent consecutive six-month rounds of monitoring that meet the criteria of that paragraph or may resume triennial monitoring for water quality parameters at the tap at the reduced number of sites after the water system demonstrates through subsequent rounds of monitoring that the water system meets the criteria of either paragraph (e)2.(i) or (e)2.(ii) of this section or both.

(f) Additional monitoring by systems must be approved by the Division.

(9) **Monitoring Requirements for Lead and Copper in Source Water.**

(a) Sample location, collection methods, and number of samples.

1. A water system that fails to meet the lead or copper action level on the basis of routine tap samples collected in accordance with Section 391-3-5-.25(7) shall collect lead and copper source water samples in accordance with the requirements regarding sample location, number of samples, and collection methods specified in 40 CFR, Part 141.88(a)(1)(i)-(iv) and (A)-(B).

2. Where the results of sampling indicate an exceedance of maximum permissible source water levels established under Section 391- 3-5-.25(4)(b)4., the Division may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to

exceed two weeks) at the same sampling point. If a Division-required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the Division-specified maximum permissible levels. Any sample value below the detection limit shall be considered to be zero. Any value above the detection limit but below the PQL shall either be considered as the measured value or be considered one-half the PQL.

(b) Monitoring frequency after system exceeds tap water action level. Any system that exceeds the lead or copper action level during routine tap water monitoring shall collect one source water sample from each entry point to the distribution system no later than six months after the end of the monitoring period during which the action level was exceeded. For monitoring periods that are annual or less frequent, the end of the monitoring period is September 30 of the calendar year in which sampling occurs, or if the Division has established an alternate monitoring period, the last day of that period.

(c) Monitoring frequency after installation of source water treatment. Any system which installs source water treatment pursuant to Section 391-3-5-.25(4)(a)2. shall collect an additional source water sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in Section 391- 3-5-.25(4)(a)4.

(d) Monitoring frequency after Division specifies maximum permissible source water levels or determines that source water treatment is not needed.

1. A system shall monitor at the frequency specified below in cases where the Division specifies maximum permissible source water levels under Section 391-3-5-.25(4)(b)4. or determines that the system is not required to install source water treatment under Section 391-3-5-.25(4)(b)2.

(i) A water system using only groundwater shall collect samples once during the three-year compliance period (as that term is defined in Section 391-3-5-.02) in effect when the applicable Division determination under paragraph (d)1. of this section is made. Such systems shall collect samples once during each subsequent compliance period. Triennial samples shall be collected every third year.

(ii) A water system using surface water (or a combination of surface and groundwater) shall collect samples once during each year, the first annual monitoring period to begin during the year in which the applicable Division determination is made under paragraph (d)1. of this section.

2. A system is not required to conduct source water sampling for lead and/or copper if the system meets the action level for the specific contaminant in tap water samples during the entire source water sampling period applicable to the system under paragraph (d)1.(i) or (ii) of this section.

(e) Reduced monitoring frequency.

1. A water system using only ground water may reduce the monitoring frequency for lead and copper in source water to once during each nine-year compliance cycle, as is defined in 40 CFR, Part 141.2, provided the samples are collected no later than every ninth year and if the system meets one of the following:

(i) The system demonstrates that finished drinking water entering the distribution system has

been maintained below the maximum permissible lead and copper concentrations specified by the Division under Rule 391-3-5-.25(1)(c) during at least three consecutive compliance periods under paragraph (d)1. of this section; or

(ii) The Division has determined that source water treatment is not needed and the system demonstrates that, at least three consecutive compliance periods in which sampling was conducted under paragraph (d)1. of this section, the concentration of lead in source water was less than or equal to 0.005 mg/L and the concentration of copper in source water was less than or equal to 0.65 mg/L.

2. A water system using surface water or a combination of surface and groundwater may reduce the monitoring frequency in paragraph (d)1. of this section to once during each nine-year compliance cycle, as is defined in 40 CFR, Part 141.2, provided the samples are collected no later than every ninth year and if the system meets one of the following:

(i) The system demonstrates that finished drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations specified by the Division under Rule 391-3-5-.25(1)(c) during at least three consecutive years; or

(ii) The Division has determined that source water treatment is not needed and the system demonstrates that, for at least three consecutive years, the concentration of lead in source water was less than or equal to 0.005 mg/L and the concentration of copper in source water was less than or equal to 0.65 mg/L.

3. A water system that uses a new source of water is not eligible for reduced monitoring for lead and/or copper until concentrations in samples collected from the new source during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified in Section 391-3-5-.25(4)(a)5.

(10) **Analytical Methods.** Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature shall be conducted in accordance with 40 CFR, Part 141.89.

(11) **Reporting Requirements.** All water systems shall report all information to the Division in accordance with 40 CFR, Part 141.90.

(12) **Record Keeping Requirements.** All systems subject to the requirements of this section shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Division determinations, and any other information required in accordance with 40 CFR, Part 141.91.

(13) **Treatment Techniques.**

(a) These regulations establish treatment techniques in lieu of maximum contaminant levels for acrylamide and epichlorohydrin.

(b) Each public water system must certify annually in writing to the Division (using third party or manufacturer's certification) that when acrylamide and epichlorohydrin are used in drinking water systems, the combination (or product) of dose and monomer level does not exceed the levels specified as follows:

1. Acrylamide = 0.05% dosed at 1 ppm (or equivalent);
2. Epichlorohydrin = 0.01% dosed at 20 ppm (or equivalent); certifications can rely on

manufacturers or third parties, as approved by the Division.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Reporting Requirements” adopted F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule entitled “Volatile Synthetic Organic Chemical Sampling and Analytical Requirements” adopted. F. May 12, 1989; eff. June 1, 1989. **Repealed:** New Rule of same title adopted. F. Dec. 4, 1990; eff. Dec. 24, 1990. Repealed: New Rule, entitled “Treatment Techniques, Lead and Copper Requirements” adopted. F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005. **Amended:** F. May 27, 2009; eff. June 16, 2009.

**391-3-5-.26 Unregulated Contaminants Sampling and Analytical Requirements. Amended.**

(1) **Contaminant Monitoring.**

Monitoring of the contaminants listed below in this section shall be conducted as follows:

(a) All community and non-transient, non-community water systems shall monitor for the contaminants listed in paragraphs (e) and (f) of this section by the date specified in Table 1. Systems serving 10,000 or fewer persons are not required to monitor for the contaminants in this section after December 31, 1998.

**TABLE 1 - MONITORING SCHEDULE BY SYSTEM SIZE**

| <b>Number of Persons served</b> | <b>Monitoring to begin no later than</b> |
|---------------------------------|--|
| Over 10,000                     | January 1, 1993                          |
| 3,300 to 10,000                 | January 1, 1994                          |
| Less than 3,300                 | January 1, 1996                          |

(b) Surface water systems shall sample at points in the distribution system representative of each water source or at entry points to the distribution system after application of treatment. The minimum number of samples is one year of quarterly samples per water source.

(c) Ground water systems shall sample at points of entry to the distribution system representative of each well after any application of treatment. The minimum number of samples is one sample per entry point to the distribution system.

(d) The Division may require confirmation samples for positive or negative results.

(e) Group III Unregulated Volatile Organic Contaminants.

| <b>Group III Unregulated Volatile Organic Contaminants</b> |
|--|
| Chloroform   |
| Bromodichloromethane                                       |
| Chlorodibromomethane                                       |
| Bromoform  |
| Dibromomethane   |
| m-Dichlorobenzene  |
| 1,1-Dichloropropene  |
| 1,1-Dichloroethane   |
| 1,1,2,2-Tetrachloroethane                                  |
| 1,3-Dichloropropane  |
| Chloromethane  |
| Bromomethane   |
| 1,2,3-Trichloropropane                                     |
| 1,1,1,2-Tetrachloroethane                                  |
| Chloroethane   |
| 2,2-Dichloropropane  |
| o-Chlorotoluene  |

|  |
|--|
| <b>Group III Unregulated Volatile Organic Contaminants</b> |
| p-Chlorotoluene  |
| Bromobenzene   |
| 1,3-Dichloropropene  |

(f) Group IV Unregulated Volatile Organic Contaminants.

|   |
|---|
| <b>Group IV Unregulated Volatile Organic Contaminants</b> |
| 1,2,4-Trimethylbenzene                                    |
| 1,2,3-Trichlorobenzene                                    |
| n-Propylbenzene   |
| n-Butylbenzene  |
| Naphthalene   |
| Hexachlorobutadiene                                       |
| 1,3,5-Trimethylbenzene                                    |
| p-Isopropyltoluene  |
| Isopropylbenzene  |
| Tert-butylbenzene   |
| Sec-butylbenzene  |
| Fluorotrichloromethane                                    |
| Dichlorofluoromethane                                     |
| Bromochloromethane  |

(g) Instead of performing the monitoring required by this section, a community water system or non-transient non-community water system serving fewer than 150 service connections may send a letter to the Division stating that the system is available for sampling. This letter must be sent to the Division by January 1, 1994. The system shall not send such samples to the Division, unless requested to do so by the Division.

(h) All community and non-transient, non-community water systems shall repeat the monitoring required in Section 391-3-5-.26(1) no less than every five (5) years from the dates specified in Section 391-3-5-.26(1)(a).

(i) The Division may allow the public water system to composite up to five samples when monitoring for substances listed in Section 391-3-5-.26(1)(e) and (f).

(j) Analysis under this section shall only be conducted by laboratories certified by the Division in accordance with Section 391-3-5-.29.

(2) **Unregulated Contaminant Monitoring.**

Monitoring of the contaminants listed in paragraphs (2)(k) and (2)(l) shall be conducted as follows:

(a) Each community and non-transient, non-community water system shall take four consecutive quarterly samples at each sampling point for each contaminant listed in paragraph (2)(k) of this section and report the results to the Division. Monitoring must be completed by December 31, 1995.

(b) Each community and non-transient non-community water system shall take one sample

at each sampling point for each contaminant listed in paragraph (2)(l) of this section and report the results to the Division. Monitoring must be completed by December 31, 1995.

(c) Each community and non-transient non-community water system may apply to the Division for a waiver from the requirements of paragraph (2)(a) and (b) of this section.

(d) The Division may grant a waiver for the requirement of paragraph (2)(a) of this section based on the criteria specified in Section 391-3-5-.22(3)(f). The Division may grant a waiver from the requirement of paragraph (2)(b) of this section if previous analytical results indicate contamination would not occur, provided this data was collected after January 1, 1990.

(e) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(f) Surface water systems shall take a minimum of one sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment (hereafter called a sampling point.) Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. [Note: For purposes of this paragraph, surface water systems include systems with a combination of surface and ground sources.]

(g) If the system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water representative of all sources is being used).

(h) The Division may require a confirmation sample for positive or negative results.

(i) The Division may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of five sampling points are allowed. Compositing of samples must be done in the laboratory and the composite sample must be analyzed within 14 days of collection. If the population served by the system is greater than 3,300 persons, then compositing may only be permitted by the Division at sampling points within a single system. In systems serving fewer than or equal to 3,300 persons, the Division may permit compositing among different systems provided the 5-sample limit is maintained.

(j) Instead of performing the monitoring required by this section, a community water system or non-transient non-community water system serving fewer than 150 service connections may send a letter to the Division stating that the system is available for sampling. This letter must be sent to the Division by January 1, 1994. The system shall not send such samples to the Division, unless requested to do so by the Division.

(k) Listed below are the unregulated organic contaminants. The analytical method shall be in accordance with 40 CFR, Part 141.40.

| <b>Unregulated Organic Contaminants</b> |
|---|
| Aldrin                                  |
| Butachlor                               |
| Carbaryl                                |

|                     |
|---------------------|
| Dicamba             |
| Dieldrin            |
| 3-Hydroxycarbofuran |
| Methomyl            |
| Metolachlor         |
| Metribuzin          |
| Propachlor          |

(l) Listed below are the unregulated inorganic contaminants. The analytical method shall be in accordance with 40 CFR, Part 141.40:

|   |
|---|
| <b>Unregulated Inorganic Contaminants</b> |
| Sulfate                                   |

(m) Analysis under this section shall only be conducted by laboratories certified by the Division.

(3) **Special Monitoring for Sodium.**

(a) Suppliers of water for community public water systems shall collect and analyze one sample per plant at the entry point of the distribution system for the determination of sodium concentration levels; samples must be collected and analyzed annually for systems utilizing surface water sources in whole or in part, and at least every three years for systems utilizing solely ground water sources. The minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the Division approval, be considered one treatment plant for determining the minimum number of samples. The supplier of water may be required by the Division to collect and analyze water samples for sodium more frequently in locations where the sodium content is variable.

(b) The supplier of water shall report to the Division the results of the analyses for sodium within the first 10 days of the month following the month in which the sample results were received or within the first 10 days following the end of the required monitoring period as stipulated by the Division, whichever of these is first, unless such analysis is performed by the Division. If more than annual sampling is required the supplier shall report the average sodium concentration within 10 days of the month following the month in which the analytical results of the last sample used for the annual average was received.

(c) The supplier of water shall notify appropriate local and state public health officials of the sodium levels by written notice by direct mail within three months. A copy of each notice required to be provided by this paragraph shall be sent to the Division within 10 days of its issuance. The supplier of water is not required to notify appropriate local and state public health officials of the sodium levels where the Division provides such notices in lieu of the supplier.

(d) Analyses for sodium shall be performed in accordance with the Federal Regulations 40 CFR, Part 141.41(d) procedures.

(e) Initial analyses for sodium for new community public water systems shall be completed within one year from the effective date of the permit to operate.



(4) **Special Monitoring for Corrosivity Characteristics.**

(a) Suppliers of water for community public water systems when required by the Division shall collect samples from a representative entry point to the water distribution system for the purpose of analysis to determine the corrosivity characteristics of the water.

1. The supplier shall collect two samples per plant for analysis for each plant using surface water sources wholly or in part or more if required by the Division one during mid-winter and one during midsummer. The supplier of the water shall collect one sample per plant for analysis for each plant using ground water sources or more if required by the Division. The minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the Division approval, be considered one treatment plant for determining the minimum number of samples.

2. Determination of the corrosivity characteristics of the water shall include measurement of pH, calcium, hardness, alkalinity, temperature, total dissolved solids (total filterable residue), and calculation of the Langelier Index in accordance with subparagraph (c) below. The determination of corrosivity characteristics shall only include one round of sampling (two samples per plant for surface water and one sample per plant for ground water sources). However, the Division has the discretion to require monitoring for additional parameters which may indicate corrosivity characteristics, such as sulfates and chlorides. In certain cases, the Aggressive Index, as described in subparagraph (c), can be used instead of the Langelier Index; the supplier shall request in writing to the Division and the Division will make this determination.

(b) The supplier of water shall report to the Division the results of the analyses for the corrosivity characteristics within the first 10 days of the month following the month in which the sample results were received, unless the analysis is conducted by the Division. If more frequent sampling is required by the Division, the supplier can accumulate the data and shall report each value within 10 days of the month following the month in which the analytical results of the last sample was received.

(c) Analyses conducted to determine the corrosivity of the water shall be made in accordance with 40 CFR Part 141.42(c).

(d) When required by the Division, the supplier of water for community and non-transient, non-community public water systems shall implement a corrosion control program satisfactory to the Division to insure that the drinking water is not unduly corrosive.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Public Notification” adopted F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule entitled “Sodium and Corrosion Control” adopted. F. May 12, 1989; eff. June 1, 1989. **Repealed:** New Rule entitled “Unregulated Contaminants Sampling and Analytical Requirements” adopted. F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. June 8, 2001; eff. June 28, 2001.

## **391-3-5-.27 Monitoring Frequency and Analytical Methods for Radioactivity in Community Water Systems. Amended.**

**Purpose and Applicability.** ~~40 CFR, Parts 9, 141, and 142 are hereby incorporated by reference.~~

### **(1) Monitoring Requirements for Gross Alpha Particle Activity, Radium-226 and Radium-228.**

(a) Compliance with paragraph (5) of Rule 391-3-5-.18 shall be based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses of four samples obtained at quarterly intervals.

1. A gross alpha particle activity measurement may be substituted for the required Radium-226 and Radium-228 analysis provided that the measured gross alpha particle activity does not exceed 5 pCi/L, at a confidence level of 95 percent ( $1.65 \sigma$ , where  $\sigma$  [sigma] is the standard deviation of the net counting rate of the sample). In localities where Radium-228 may be present in drinking water, Radium-226 and/or Radium-228 analyses are required when the gross alpha particle activity exceeds 2 pCi/L.

2. When the gross alpha particle activity exceeds 5 pCi/L, the same or an equivalent sample shall be analyzed for Radium-226. If the concentration of Radium-226 exceeds 3 pCi/L the same or an equivalent sample shall be analyzed for Radium-228.

(b) The initial analysis required by subparagraph (1)(a) of this section for new water systems shall be completed within two years from the effective date of the permit to operate.

(c) Suppliers of water shall monitor at least once every four years following the procedure required by subparagraph (1)(a) of this Section. At the discretion of the Director when an annual record taken in conformance with subparagraph (1)(a) of this Section has established that the average annual concentration is less than half the maximum contaminant levels established by paragraph (6) of Section 391-3-5-.18, analysis of a single sample may be substituted for the quarterly sampling procedure required by subparagraph (1)(a) of this Section.

1. More frequent monitoring shall be conducted when ordered by the Director in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

2. A supplier of water shall monitor in conformance with subparagraph (1)(a) of this Section within one year of the introduction of a new water source for a community water system. More frequent monitoring shall be conducted when ordered by the Director in the event of possible contamination or when changes in the distribution system or treatment process occur which may increase the concentration of radioactivity in drinking water.

3. A community water system using two or more sources having different concentrations of radioactivity shall monitor each source of water, in addition to water from a free flowing drinking water tap, when ordered by the Director.

4. Monitoring for compliance with paragraph (5) of Section 391-3-5-.18 after the initial period need not include Radium-228 except when required by the Director provided, that the average annual concentration of Radium-228 has been assayed at least once using the quarterly sampling procedure required by subparagraph (1)(a) of this Section.

5. Suppliers of water shall conduct annual monitoring of any community water system in which the Radium-228 concentration exceeds 3 pCi/L, as ordered by the Director.

(d) If the average annual maximum contaminant level for gross alpha particle activity or total radium as set forth in paragraph (5) of Section 391-3-5-.18 is exceeded, the supplier of a community water system shall give notice to the Division pursuant to Section 391-3-5-.30 and notify the public pursuant to Section 391-3-5-.32. Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a permit, variance, exemption or enforcement action shall become effective.

(2) **Monitoring Requirements for Man-made Radioactivity in Community Water Systems.**

(a) Within two years following June 24, 1977 systems using surface water sources and serving more than 100,000 persons and such other community water systems as are designated by the Division shall be monitored for compliance with paragraph (5) of Section 391-3-5-.18 by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. Compliance with paragraph (5) of Section 391-3-5-.18 may be assumed without further analysis if the average annual concentrations of tritium and strontium-90 are less than those listed in Table A, provided, that in no case shall the sum of their annual dose equivalents to bone marrow exceed 4 milligrams per year.

1. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with paragraph (5) of Section 391-3-5-.18.

2. Suppliers of water shall conduct additional monitoring, as ordered by the Director, to determine the concentration of man-made radioactivity in principal watersheds designated by the Division.

3. At the discretion of the Director suppliers of water utilizing only ground waters may be required to monitor for man-made radioactivity.

(b) After the initial analysis required by subparagraph (2)(a) of this Section suppliers of water shall monitor at least every four years following the procedure given in subparagraph (2)(a) of this Section.

(c) Within two years of June 24, 1977 the supplier of any community water system designated by the Division as utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

1. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of three monthly samples. The former is recommended. If the gross beta particle activity in a sample exceeds 15 pCi/L, the same or an equivalent sample shall be analyzed for strontium-89 and cesium-134. If the gross beta particle activity exceeds 50 pCi/L, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with paragraph (5) of Section 391-3-5-.18.

2. For iodine-131, a composite of five consecutive daily samples shall be analyzed once

each quarter. As ordered by the Director, more frequent monitoring shall be conducted when iodine-131 is identified in the drinking water.

3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. The latter procedure is recommended.

4. The Division may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of man-made radioactivity by the supplier of water where the Division determines such data is applicable to a particular community water system.

(e) If the average annual maximum contaminant level for manmade radioactivity set forth in paragraph (5) of Section 391-3-5-.18 is exceeded, the operator of a community water system shall give notice to the Division pursuant to Section 391-3-5-.30 and to the public as required by Section 391-3-5-.32. Monitoring at monthly intervals shall be continued until the concentration no longer exceeds the maximum contaminant level or until a monitoring schedule as a condition to a permit, variance, exemption or enforcement action shall become effective.

(3) **Sample Collection and Analysis.** Upon written direction of the Director the supplier shall collect and submit drinking water samples for analysis in accordance with the schedule furnished.

(4) **Analytical Methods.** Analytical methods for measurement of radioactivity shall be in accordance with 40 CFR, Part 141.25.

(5) **Monitoring Requirements Effective December 7, 2003.** All existing community water systems (CWSs) must conduct initial monitoring to determine compliance with this section between December 7, 2003 and December 31, 2007. CWSs must sample each entry point to the distribution system for four consecutive quarters.

(6) **New Sources.** All new CWSs or CWSs that use a new source of water shall begin to conduct initial monitoring within the first quarter after initiating use of the source.

(7) **Initial Monitoring Waiver.** For gross alpha particle activity, uranium, radium-226, and radium-228 monitoring, the Division may waive the final two quarters of initial monitoring for a sampling point if the results of the samples from the previous two quarters are below the detection limit.

(8) **Initial Monitoring Above MCL.** If the average of the initial monitoring results for a sampling point is above the MCL, the system must collect and analyze quarterly samples at the sampling point until the system has results from four consecutive quarters that are at or below the MCL, unless the system enters into another schedule as part of a formal compliance agreement with the Division.

(9) **Reduced Monitoring.** The Division may allow community water systems to reduce the future frequency of monitoring from one every three years to once every six or nine years at each sampling point, based on the following criteria:

(a) If the average of the initial monitoring results for each contaminant (i.e., gross alpha particle activity, uranium, radium-226, or radium-228) is below the detection limit specified in Table B, in Sec. 141.25(c)(1), the system must collect and analyze for that contaminant using at least one sample at the sampling point every nine years.

- (b) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is at or above the detection limit but at or below half (1/2) the MCL, the system must collect and analyze for that contaminant using at least one sample at that sampling point every six years. For combined radium-226 and radium-228, the analytical results must be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is at or above the detection limit but at or below half (1/2) the MCL, the system must collect and analyze for that contaminant using at least one sample at that sampling point every six years.
- (c) For gross alpha particle activity and uranium, if the average of the initial monitoring results for each contaminant is above half (1/2) the MCL but at or below the MCL, the system must collect and analyze at least one sample at that sampling point every three years. For combined radium-226 and radium-228, the analytical results must be combined. If the average of the combined initial monitoring results for radium-226 and radium-228 is above half (1/2) the MCL but at or below the MCL, the system must collect and analyze at least one sample at that sampling point every three years.
- (d) Systems must use the samples collected during the reduced monitoring period to determine the monitoring frequency for subsequent monitoring periods, (e.g., if a system's sampling point is on a nine year monitoring period, and the sample result is above half (1/2) MCL, then the next monitoring period for that sampling point is three years).
- (e) If a system has a monitoring result that exceeds the MCL while on reduced monitoring, the system must collect and analyze quarterly samples at that sampling point until the system has results from four consecutive quarters that are below the MCL, unless the system enters into another schedule as part of a formal compliance agreement with the Division.
- (10) **Compositing.** To fulfill quarterly monitoring requirements for gross alpha particle activity, radium-226, radium-228, or uranium, a system may composite up to four consecutive quarterly samples from a single entry point if analysis is done within a year of the first sample. The Division will treat analytical results from the composited as the average analytical result to determine compliance with the MCLs and the future monitoring frequency. If the analytical result from the composited sample is greater than half (1/2) MCL, the Division may direct the system to take additional quarterly samples before allowing the system to sample under a reduced monitoring schedule.
- (11) **Gross Alpha Particle Activity.** A gross alpha particle activity measurement may be substituted for the required radium-226 measurement provided that the measured gross alpha particle activity does not exceed 5 pCi/L. A gross alpha particle activity measurement may be substituted for the required uranium measurement provided that the measured gross alpha particle activity does not exceed 15 pCi/L.
- (12) **Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity.** To determine compliance with the maximum contaminant levels in CFR Sec. 141.66(d) for beta particle and photon radioactivity, a system must monitor at a frequency as follows:
- (a) Community water systems (both surface and ground water) designated by the Division as vulnerable must sample for beta particle and photon radioactivity. Systems must collect quarterly samples for both beta emitters and annual samples for tritium and strontium-90 at each entry point to the distribution system (hereafter called a sampling point), beginning within one quarter

after being notified by the Division. Systems already designated by the Division must continue to sample until the Division reviews and either reaffirms or removes the designation.

1. If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity at a sampling point has a running annual average (computed quarterly) less than or equal to 50 pCi/L (screening level), the Division may reduce the frequency of monitoring at that sampling point to once every 3 years. Systems must collect all samples required in paragraph (b)(1) of this section during the reduced monitoring period.

2. For systems in the vicinity of a nuclear facility, the Division may allow the CWS to utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry point(s), where the Division determines if such data is applicable to a particular water system. In the event that there is a release from a nuclear facility, systems which are using surveillance data must begin monitoring at the community water system's entry point(s) in accordance with paragraph (b)(1) of this section.

(b) Community water systems (both surface and ground water) designated by the Division as utilizing waters contaminated by effluents from nuclear facilities must sample for beta particle and photon radioactivity. Systems must collect quarterly samples for beta emitters and iodine-131 and annual samples for tritium and strontium-90 at each entry point to the distribution system (hereafter called a sampling point), beginning within one quarter after being notified by the Division. Systems already designated by the Division as systems using waters contaminated by effluents from nuclear facilities must continue to sample until the Division reviews and either reaffirms or removes the designation.

1. Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of three monthly samples. The former is recommended.
2. For iodine-131, a composite of five consecutive daily samples shall be analyzed once each quarter. As ordered by the Division, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.
3. Annual monitoring for strontium-90 and tritium shall be conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples. The latter procedure is recommended.
4. If the gross beta particle activity beta minus the naturally occurring potassium-40 beta particle activity at a sampling point has a running annual average (computed quarterly) less than or equal to 15 pCi/L, the Division may reduce the frequency of monitoring at that sampling point to every 3 years. Systems must collect all samples required in paragraph (b)(2) of this section during the reduced monitoring period.
5. For systems in the vicinity of a nuclear facility, the Division may allow the CWS to utilize environmental surveillance data collected by the nuclear facility in lieu of monitoring at the system's entry point(s), where the Division determines if such data is applicable to a particular water system. In the event that there is a release from a nuclear facility, systems which are using surveillance data must begin monitoring at the community water system's entry point(s) in accordance with paragraph (b)(2) of this section.



(c) Community water systems designated by the Division to monitor for beta particle activity and photon radioactivity cannot apply to the Division for a waiver from the monitoring frequencies specified in paragraphs (b)(1) or (b)(2) of this section.

(d) Community water systems may analyze for naturally occurring potassium-40 beta particle activity from the same or equivalent sample used for the gross beta particle activity analysis. Systems are allowed to subtract the potassium-40 beta particle activity value from the total gross beta particle activity value to determine if the screening level is exceeded. The potassium-40 beta particle activity must be calculated by multiplying elemental potassium concentrations (in mg/L) by a factor of 0.82.

(e) If the gross beta particle activity minus the naturally occurring potassium-40 beta particle activity exceeds the screening level, an analysis of the sample must be performed to identify the major radioactive constituents present in the sample and the appropriate doses must be calculated and summed to determine compliance with Sec. 141.66(d)(1), using the formula in Sec. 141.66(d)(2). Doses must also be calculated and combined for measured levels of tritium and strontium to determine compliance.

(13) **Monthly Sampling.** Systems must monitor monthly at the sampling point(s) which exceed the maximum contaminant level in Sec. 141.66(d) beginning the month after the exceedance occurs. Systems must continue monthly monitoring until the system has established, by a rolling average of 3 monthly samples, that the MCL is being met. Systems who establish that the MCL is being met must return to quarterly monitoring until they meet the requirements set forth in paragraph (b)(1)(ii) or (b)(2)(i) of this section.

(14) **Running Annual Average.** For systems monitoring more than once per year, compliance with the MCL is determined by a running annual average at each sampling point. If the average of any sampling point is greater than the MCL, then the system is out of compliance with the MCL.

(15) **Exceeding MCL.** For systems monitoring more than once per year, if any sample result will cause the running average to exceed the MCL at any sample point, the system is out of compliance with the MCL immediately.

(16) **Running Annual Average Calculation.** If a system does not collect all required samples when compliance is based on a running annual average of quarterly samples, compliance will be based on the running average of the samples collected.

(17) **Detection Limit and Running Annual Average Calculation.** If a sample result is less than the detection limit, zero will be used to calculate the annual average, unless a gross alpha particle activity is being used in lieu of radium-226 and/or uranium. If the gross alpha particle activity result is less than detection, half (1/2) the detection limit will be used to calculate the annual average.

(18) **MCLGs.** The Maximum Contaminant Level Goal (MCLG) for Combined radium-226 and radium-228, Gross alpha particle activity, Beta particle and photon radioactivity, and uranium is zero.

(19) **MCLs.** The Maximum Contaminant Level (MCL) for radioactive particles is as follows:

(a) MCL for combined radium-226 and radium-228. The maximum contaminant level for combined radium-226 and radium-228 is 5 pCi/L. The combined radium-226 and radium-228

value is determined by the addition of the results of the analysis for radium-226 and the analysis for radium-228.

(b) MCL for gross alpha particle activity (excluding radon and uranium). The maximum contaminant level for gross alpha particle activity (including radium-226 but excluding radon and uranium) is 15 pCi/L.

(c) MCL for beta particle and photon radioactivity. The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than four millirem per year (4 mrem/yr).

(d) MCL for uranium. The maximum contaminant level for uranium is 30 µg/L.

Authority O.C.G.A. Sec. 12-5-170 et seq. **History.** Original Rule entitled “Secondary Maximum Contaminant Levels for Drinking Water” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule of the same title adopted. F. July 15, 1983; eff. Aug. 4, 1983. **Repealed:** New Rule entitled “Monitoring Frequency and Analytical Methods for Radioactivity in Community Water Systems” adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.



### **391-3-5-.28 Alternative Analytical Techniques. Amended.**

With the written permission of the Director, concurred in by the administrator of the U.S. Environmental Protection Agency, an alternative analytical technique may be employed. An alternative technique shall be acceptable only if its accuracy as it relates to the determination of compliance with any maximum contaminant level. The use of the alternative analytical techniques shall not decrease the frequency of monitoring required by these rules, in accordance with 40 CFR, Part 141.27.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Maximum Contaminant Levels for Radium-226, Radium-228, and Gross Alpha Particle Radioactivity in Community Water Systems" was filed on July 5, 1977; effective July 26, 1977, as specified by rule 391-3-5-.47. **Repealed:** New Rule entitled "Alternative Analytical Techniques" adopted. F. May 12, 1989; eff. Jun. 1, 1989. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997.

### **391-3-5-.29 Certified Laboratories. Amended.**

(1) **Laboratories Approved by the Division.** For the purpose of determining compliance with Rules 391-3-5-.18, .19, .20, .21, .22, .23, .24, .25, .26, .27 and .54, samples may be considered only if they have been analyzed by a laboratory approved by the Division, in accordance with 40 CFR, 141.28, except that measurements used solely for operational control, including but not limited to turbidity, free chlorine residual, fluoride residual, temperature, pH, conductivity, calcium, alkalinity, orthophosphate, and silica may be performed by any person acceptable to the Division.

(2) **Laboratory Personnel Changes.** All drinking water analysis laboratories certified by the Division must notify the Division of personnel changes within thirty (30) days from the time of the change.

(3) **Division-Collected Samples.** Nothing in this Chapter shall be construed to preclude the Division or any duly designated representative of the Division from taking samples or from using the results from such samples to determine compliance by a supplier of water with the applicable requirements of this Chapter.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule entitled "Maximum Contaminant Levels for Beta Particle and Photon Radioactivity from Man-Made Radionuclides in Community Water Systems" was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-47. **Repealed:** New Rule entitled "Laboratory Approval" adopted. F. May 12, 1989; eff. Jun. 1, 1989. **Repealed:** New Rule, same title, adopted. F. Jun. 25, 1992; eff. Jul. 15, 1992. **Amended:** F. Mar. 10, 1994; eff. Mar. 30, 1994. **Amended:** Rule retitled "Certified Laboratories" adopted F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### **391-3-5-.30 Reporting Requirements. Amended.**

(1) **Reporting Period.** Except where a shorter period is specified by the Director, the supplier of water shall report to the Division the results of any test measurement or analysis required by this Chapter within:

(a) the first ten days following the month in which the results are received; or

(b) the first ten days following the end of the required monitoring period as stipulated by the Division, whichever of these is shortest. Note: Test measurements and results should be reported on the Division's reporting forms. Copies of these forms can be found on the Division web page.

(2) **Violation.** Failure to comply with paragraphs (1)(a) and (b) of Rule 391-3- 5-.30 will result in a monitoring/reporting violation.

(3) **Analysis by Division Laboratory.** The supplier of water is not required to report analytical results to the Division in cases where the Division's laboratory performs the analysis and reports the results to the Division's office which would normally receive such notification from the supplier.

(4) **Analysis by Non-Division Laboratory.** The supplier of water is not required to report analytical results to the Division in cases where the Division's laboratory performs the analysis and reports the results to the Division's office, which would normally receive such notification from the supplier. When the Division's laboratory does not perform the analysis, and the supplier chooses to use a laboratory certified by the Division, analytical results shall be reported to the Division's office in a manner that is specified by the Division.

(5) **Records Maintained by Public Water System.** The water supply system shall submit to the Division within the time stated in the request copies of any records required to be maintained under Rule 391-3-5-.15 hereof or copies of any documents then in existence which the Division is entitled to inspect pursuant to the authority of the Act.

(6) **Waterborne Disease Outbreak.** Each system, upon discovering that a waterborne disease outbreak potentially attributable to that water system has occurred, must report that occurrence to the Division by telephone within forty-eight (48) hours or before the end of the next business day, whichever is earlier, followed by a written report.

(7) **Lead and Copper Information.** All water systems shall report all lead and copper information in accordance with 40 CFR, Part 141.90 when applicable. Separate reports are required for each of the following:

1. tap water monitoring for lead and copper, and other water quality monitoring;
2. source water monitoring;
3. corrosion control treatment;
4. source water treatment;
5. lead service line replacement;
6. public education programs.

(8) **Reserved.**

- (9) **Disinfection Byproducts Information.** Systems monitoring for disinfection byproducts (TTHM, HAA5, chlorite, bromate) under the requirements of 40 CFR § 141.132(b) must report the information specified in section 40 CFR § 141.134(b).
- (10) **Disinfectants Information.** Systems monitoring for disinfectants (chlorine, chloramines, chlorine dioxide) under the requirements of 40 CFR § 141.132(c) must report the information specified in Section 40 CFR § 141.134(c).
- (11) **Disinfection Byproduct Precursors Information.** Systems monitoring for disinfection byproduct precursors (TOC) under the requirements of 40 CFR § 141.132(d) and required to meet the enhanced coagulation or enhanced softening requirements in 141.135(b)(2) or (3) or meeting one or more of the alternative compliance criteria in 141.135(a)(2) or (3) must report the information specified in section 40 CFR § 141.134(d).
- (12) **Conventional or Direct Filtration Information for Systems Serving At Least 10,000 Persons.** Beginning January 1, 2002, in addition to the requirement in this Chapter, the Subpart H water systems serving at least 10,000 people and providing conventional filtration treatment or direct filtration must report monthly to the Division the information specified in 40 CFR § 141.175(a) and (b). Those systems using filtration technologies other than conventional filtration treatment, direct filtration, slow sand filtration, or diatomaceous earth filtration must report monthly to the Division the information in 40 CFR § 141.175(a) in lieu of reporting in (b)(1).
- (13) **Content of Consumer Confidence Reports.** 40 CFR § 141.153 is hereby incorporated by reference.
- (14) **Filtration Information for Systems Serving Less Than 10,000 Persons.** In addition to the requirements in this Chapter, the Subpart H water systems serving fewer than 10,000 people must report the required items at the frequency described in 40 CFR Subpart T § 141.570.
- (15) **Filter Backwash Information.** All subpart H systems that employ conventional filtration or direct filtration treatment and that recycle spent filter backwash water, thickener supernatant, or liquids from dewatering processes must report the information specified in 40 CFR § 141.76(b)(1) and (2) to the Division no later than December 8, 2003.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History:** Original Rule entitled “Analytical Methods for Radioactivity” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled “Reporting Requirements” adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** Dec. 4, 1990; eff. Dec. 24, 1990. **Amended:** F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.

### **391-3-5-.31 Monitoring of Consecutive Public Water Systems. Amended.**

Purchased water systems may be monitored as consecutive systems with the consent of the system involved and the approval of the Director. Monitoring schedules and reporting procedures for consecutive water systems must be in the form and manner as specified by the Division.

Authority Ga. L. 1977, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History:** Original Rule entitled "Monitoring Frequency for Radioactivity in Community Water System" was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Amended:** Filed July 15, 1983; effective August 4, 1983. **Repealed:** New Rule entitled "Monitoring of Consecutive Public Water Systems" adopted. F. May 12, 1989; eff. Jun. 1, 1989. **Repealed:** New Rule, same title, adopted. F. Jun. 25, 1992; eff. Jul. 15, 1992.

### **391-3-5-.32 Public Notification. Amended.**

(1) **Public Notification of Drinking Water Violations.** 40 CFR, Subpart Q §§ 141.201 through 141.210, including Appendices A, B and C to subpart Q of Part 141, is hereby incorporated by reference. Any amendments to any part of the appendices in 40 CFR, Subpart Q are hereby incorporated by reference. If a community or non-community water system fails to comply with an applicable primary maximum contaminant level established in Section 391-3-5-.18; fails to comply when applicable with the secondary maximum contaminant level for fluoride established in Section 391-3-5-.19; fails to comply with an applicable testing procedure established in Sections 391-3-5-.20, .21, .22, .23, .24, .25, or .27; is granted a variance or an exemption from an applicable maximum contaminant level; fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption; or fails to comply with any treatment technique requirement specified by the Director; or fails to perform any monitoring or reporting required pursuant to Sections 391-3-5-.20, .21, .22, .23, .24, .25, .26, .27 and .30; the supplier of water shall notify persons (including the mandatory health effects language) served by the system as required in 40 CFR, Parts 141, Subpart Q, 142.16(a). **The public water system, within ten (10) days of completing the public notification requirements under 40 CFR, Parts 141, Subpart Q for the initial public notice and any repeat notices, must submit to the Division a certification that it has fully complied with the public notification regulations. The public water system must include with this certification a representative copy of each type of notice distributed, published, posted, and made available to the persons served by the system and to the media.**

(2) **Public Notification of Lead Contamination.** The owner or operator of each community water system and each non-transient, non-community water system shall issue notice, in accordance with 40 CFR, Part 141.34, to persons served by the system that may be affected by lead contamination of their drinking water. The owner or operator shall provide notice under this Section even if there is no violation of the national primary drinking water regulation for lead.

(3) **Public Notification of Unregulated Organic Chemical Monitoring.** The owner or operator of a community water system or non-transient, non-community water system who is required to monitor for unregulated organic chemicals in accordance with Section 391-3-5-.26 shall notify persons served by the system of the availability of the results of sampling in accordance with 40 CFR, Part 141.35.

(4) **Public Notification for Acute Health Risk MCL Violations.** For violations of the MCL of contaminants and MRDLs of disinfectants that may pose an acute risk to human health, a copy of the notice shall be furnished to radio and television stations serving the area served by the public water system as soon as possible but in no case later than seventy-two (72) hours after the violation.

(a) For violations of the MCL for total coliform, when fecal coliform or *E. coli* is detected or a failure to test for fecal coliform or *E. coli*, including *E. coli* in source water samples based on § 141.202(a) Table 1(8) and MRDLs of disinfectants that may pose acute risk to human health, a copy of the notice shall be furnished to radio and television stations serving the area served by the public water system as soon as possible but in no case later than 24 hours after the violation.

(b) For violations of the MCL for total coliform, MRDLs and treatment technique requirements taking in account potential health effects a copy of the notice must be provided by a daily or

weekly newspaper as soon as possible but in no case later than 30 days of the violation as stated in § 141.203(a)(4). A copy must also be issued by direct mail, posting, or hand delivery as soon as possible but in no case later than 30 days of the violation.

(c) Tier 1 public notice in lieu of Tier 2 or Tier 3 is required for violations or situations listed in Table 1 of 40 CFR 141.202(a)(5), (6), and (9) are hereby incorporated by reference.

1. Violation of the turbidity MCL under § 141.13(b), where the primacy agency determines after consultation that a Tier 1 notice is required or where consultation does not take place within 24 hours after the system learns of the violation;
2. Violation of the Surface Water Treatment Rule (SWTR), Interim Enhanced Surface Water Treatment Rule (IESWTR) or Long Term 1 Enhanced Surface Water Treatment Rule (L1SWTR) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit.
3. Other violations or situations with significant potential to have serious adverse effects on human health as a result of short-term exposure, as determined by the primacy agency either in its regulations or on a case-by-case basis.

(5) **Provide Notice Prior to New Service.** The owner or operator of a community water system must give a copy of the most recent public notice for any outstanding violation of any maximum contaminant level, or any maximum residual disinfectant level, or any treatment technique requirement, or any variance or exemption schedule to all new billing units or new hookups prior to or at the time service begins.

(6) **Cryptosporidium Public Notice.** Special public notice for repeated failure to conduct monitoring of the source water for *Cryptosporidium* and for failure to determine bin classification or mean *Cryptosporidium* level: 40 CFR, Subpart Q § 141.211, in its entirety, including Appendix A, is hereby incorporated by reference. The specified mandatory language must be included in the special notice.

(7) **Non-Applicability.** Any reference to public notification requirements in 40 CFR 141.32 is not applicable.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Requirements for a Variance” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled “Public Notification” adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Dec. 4, 1990; eff. Dec. 24, 1990. **Repealed:** New Rule of same title adopted. F. June 25, 1992; eff. July 15, 1992. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. May 27, 2009; eff. June 16, 2009.

### **391-3-5-.33 Variances and Exemptions. Amended.**

Variances and exemptions from certain provisions of these regulations may be granted by the Director pursuant to O.C.G.A. Sec. 12-5-178 and 40 CFR § 141.4 and in the case of arsenic, 40 CFR § 142.20(b).

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Variance Request” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled “Variances and Exemptions” adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.



### **391-3-5-.34 Emergencies.**

Whenever the Director finds that an emergency exist, presenting an imminent hazard to the public health, safety or welfare, requiring immediate action to protect the public health and to insure that the need for safe drinking water is met, he may, without notice or hearing, issue such order or orders as he deems necessary and appropriate to meet to emergency. Any such order shall cite the existence of an emergency and shall contain a brief statement of the reasons for his finding that an emergency exists. Such orders shall be immediately effective and any person affected thereby shall comply therewith immediately. Such orders shall, however, contain a notice of the time and place of a hearing scheduled within twenty (20) days from the issuance of such order before a Hearing Officer, appointed by the Department. Based upon the findings, of the Hearing Officer, the order shall be modified, revoked, or continued as the Hearing Officer deems appropriate.

Authority Ga. L. 1977, p. 351. *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled "Emergencies" adopted. F. May 12, 1989; eff. Jun. 1, 1989.

### **391-3-5-.35 Inspections and Investigations.**

(1) **Access for Inspection or Investigation.** The Director, or his appointed agent, shall be permitted access in or upon any private or public property at all reasonable times for the purpose of inspecting or investigating conditions, processes, equipment, methods, treatment, facilities, or records relating to or associated with the operation of any water system, to determine applicability of and compliance with the Act and these rules, to investigate any apparent violation of the Act, and to make such other investigations as he deems advisable and necessary for the protection of the public health or welfare pursuant to the Act.

(2) **Issue Orders for Compliance.** Based on the Director's findings in any such inspection or investigation, or upon denial of entry pursuant to the above paragraph, the Director may issue such orders as are necessary to insure compliance with the Act and these rules.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled "Inspections and Investigations" adopted. F. May 12, 1989; eff. Jun. 1, 1989.

### **391-3-5-.36 Enforcement.**

The administration and enforcement of these rules and regulations shall be in accordance with the Georgia Administrative Procedure Act. Such enforcement measures include, but are not limited to, administrative orders, court orders, injunctive relief, and civil and criminal penalties pursuant to the Act.

Authority Ga. L. 1977, p. 351 *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled "Enforcement" adopted. F. May 12, 1989; eff. Jun. 1, 1989.

### **391-3-5-.37 State Primacy Maintenance.**

- (1) Notwithstanding any other section, the requirements of these Safe Drinking Water Rules shall in any event be the same as the requirements of the National Primary Drinking Water Regulations in 40 CFR, Part 141 promulgated pursuant to Section 1412 of the Federal Act (42 U.S.C. 300g-1).
- (2) The Director may prescribe more stringent requirements than those specified by any other section of these Safe Drinking Water Rules when necessary to:
  - (a) meet any requirements of the Federal Act and Regulations; or
  - (b) safeguard the public health, safety and welfare.

Authority Ga. L. 1977, p. 351, et seq., 12-5-170 et seq., as amended. **History.** Original Rule was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled "State Primacy Maintenance" adopted. F. May 12, 1989; eff. Jun. 1, 1989.

### **391-3-5-.38 Effective Date. Amended.**

These rules shall become effective on July 26, 1977. Amendments shall become effective as provided by law.

Authority Ga. L. 1977, p. 351, *et seq.*, O.C.G.A. Sec. 12-5-170 *et seq.*, as amended. **History.** Original Rule was filed on July 5, 1977; effective July 26, 1977, as specified by Rule 391-3-5-.47 **Repealed:** New Rule entitled "Effective Date" adopted. F. May 12, 1989; eff. Jun. 1, 1989.

**391-3-5-.39 Public Water System Classification. Amended.**

(1) **Purpose.** In accordance with Section 10 of the Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act (O.C.G.A. Section 43-51-1) the following classifications shall be considered as minimum levels, and the Division may classify any system or plant at a higher level if the complexity of the system or plant warrants such higher classification in the judgment of the Division. Any system or plant not fitting any of the following standard descriptions shall be classified individually according to the judgment of the Division. Where water is supplied to a distribution system from two or more sources, the classification may be set by the Division.

(2) **Minimum Classifications.** The following classifications shall be considered as minimum levels:

Public Water System Classification for Community and Non-transient Non-community Systems<sup>1</sup>

| System Type  | Class I  | Class II                         | Class III                 | Class IV             |
|--|--|----------------------------------|---------------------------|----------------------|
| Surface water with conventional treatment plant                | 5.0 MGD or greater   | 4.99 MGD or less                 | <u>n/a</u>                | <u>n/a</u>           |
| Surface water with package or non-conventional treatment plant | 1.0 MGD or greater   | 0.99 MGD or less                 | <u>n/a</u>                | <u>n/a</u>           |
| Surface water with approved high-rate filtration               | 3.0 gpm/sq.ft. or greater  | Less than 3.0 gpm/sq.ft.         | <u>n/a</u>                | <u>n/a</u>           |
| Groundwater under the direct influence of surface water        | 1.0 MGD or greater   | Greater than 0.1 MGD to 0.99 MGD | 0.1 MGD or less           | <u>n/a</u>           |
| Groundwater  | 50,000 or greater population   | 10,000 to 49,999 population      | 1,000 to 9,999 population | 25 to 999 population |
| Distribution systems   | Certification is required for the operator of public water distribution systems. |                                  |                           |                      |

Note: <sup>1</sup> MGD is million gallons per day; gpm/sq.ft. is gallons per minute per square-foot filter surface area; n/a is not applicable.

(3) **Groundwater Transient Non-community Water Systems.** All Transient Non-community water systems with groundwater sources must have at least a Class IV operator certification.

(4) **Surface Water Transient Non-community Water Systems.** Certification of Transient Non-community water systems with surface water will be specified in their permit to operate a public water system.

(5) **Higher Classification.** When the complexity of water treatment warrants it, a higher classification may be required and specified in the permit to operate a public water system.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Consideration of an Exemption Request” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** New Rule entitled “Public Water System Classification” adopted. F. May 12, 1989; eff. June 1, 1989. **Amended:** F. Sept. 26, 1997; eff. Oct. 16, 1997. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000.

### **391-3-5-.40 Wellhead Protection. Amended.**

- (1) **Purpose.** The following rule for wellhead protection serve to help protect wells and springs used as sources of water supply for community public water systems owned by and/or serving municipalities, counties, and authorities from nearby pollution sources.
- (2) **Development of Wellhead Protection Plan.** The Division shall develop a Wellhead Protection Plan for every well, well field or spring which is used as a source for a community public water supply owned by and/or serving a municipality, county, or an authority.
- (3) **Components of Wellhead Protection Plans.** Wellhead Protection Plans shall consist of five parts; namely:
  - (a) an identification and location of a Control Zone for each well or spring;
  - (b) an identification and location of each required Management Zone for each well or spring;
  - (c) an inventory of potential pollution sources in the designated wellhead protection areas;
  - (d) a management plan for potential pollution sources identified in the inventory; and
  - (e) if available, a contingency plan submitted by the supplier to the Division describing how alternate water supplies will be provided in case the well(s) in question become polluted. The Division shall develop all individual Wellhead Protection Plans consistent with the rules.
- (4) **Wellhead Protection Zones.** Every Wellhead Protection Area shall consist of two zones, as follows:
  - (a) The Control Zone: Within this zone, the owner shall control all activities so that there are minimal sources of potential pollution in the immediate vicinity of the well bore.
  - (b) The Management Zone: Within this zone, certain potential pollution sources are prohibited or certain activities must be performed in accordance with the rules listed below. The size and shape of the management zone will vary according to aquifer type, aquifer hydraulic conductivity, pumpage rate, hydrologic province, and proximity to recharge.
- (5) **Control Zone.** All wells used as a source of public water supply for community public water systems owned by and/or serving municipalities, counties, or authorities shall have a control zone.
- (6) **Delineation of Management Zone.** The Division shall delineate the size and shape of the management zone of a wellhead protection area as defined below:
  - (a) wells determined by the Division as drawing water only from confined aquifers shall have an inner management zone extending outward from the center of the borehole for a radius of 100 feet. No outer management zone is required for such wells.
  - (b) wells drawing water from unconfined aquifers as determined by the Division and springs, except those determined by the Division to lie in areas of karst, shall have an inner management zone extending outward from the center of the borehole or spring head for a radius of 250 feet.
  - (c) wells drawing water from unconfined aquifers as determined by the Division and springs, which the Division has identified as being in areas of karst, shall have an inner management zone extending outward from the center of the borehole or spring head for a radius of 500 feet.



(d) unconfined wells which the Division has determined utilize fractured crystalline rock aquifers shall have an outer management zone determined according to the “Health Method Curve” contained in the EPA approved Georgia Wellhead Protection Plan.

(e) unconfined aquifer wells determined by the Division as lying in karst regions and all springs shall have an outer management zone determined by hydrogeologic mapping or other method acceptable to the Division.

(f) Other wells not meeting the above criteria shall have their outer management zones determined by time of travel calculations (a minimum of a 5-year time of travel) or by volumetric calculations as appropriate.

(7) **Inventory of Potential Pollution Sources.** The Division shall carry out an inventory of potential pollution sources within the control zone and management zones. Inventories shall be permanently maintained by the Division in computer data base format. Minimum information shall be the name and address of the owner of the well or spring, location of the well or spring, applicable permit data, the size and shape of the control and management zones, and the types of potential pollution sources. Inventories shall be carried out by the Division every ten (10) years.

(8) **Inner and Outer Management Zones.** Within the inner and outer management zones of existing wells and springs, the following shall apply:

(a) The Division shall not issue any new permits for municipal solid waste landfills, industrial waste landfills or construction/demolition waste landfills.

(b) The Division shall not issue any new permits for the land disposal of hazardous wastes.

(c) The Division shall require all new facilities permitted to handle, treat, store or dispose of hazardous waste or hazardous materials to perform such operations on an impermeable pad having a spill and leak collection system.

(d) The Division shall require all new agricultural waste impoundments to have an impermeable synthetic liner.

(e) The Division shall not issue any new permits for land application of wastewater or sludge.

(f) Deleted.

(g) The Division shall not issue permits for any new quarries or underground mines unless a hydrogeological investigation carried out by the applicant clearly demonstrates that operation of the quarry or mine will not pollute the well or spring or cause a reduction of ground water flow to the well or spring. Such investigation shall be performed by a professional engineer or professional geologist.

(h) The Division shall require that all new underground storage tanks installed shall meet the highest standards applicable under the Underground Storage Tank Act. All preexisting underground storage tanks shall be required to have ground water or vapor monitoring. All abandoned underground storage tanks shall meet the requirements of Section 391-3-15-.11 of the Rules for Underground Storage Tanks.

(i) The Division shall require all new wastewater treatment basins to have an impermeable synthetic liner.

(9) **New Sources that are Wells or Springs.** For new wells or springs that are to be used as a source of water supply for a community public water system owned by and/or serving a municipality, county, or authority the following shall apply:

(a) The Division shall not issue any permit for the addition of a new well or spring until the Division has delineated an appropriate wellhead protection area and carried out an inventory of potential pollution sources in the wellhead protection area of the proposed well or spring. The Division shall make provision for emergency situations.

(b) Once the owner and/or supplier requests the Divisions approval for the construction and/or development of a new well, well field, or spring, the Division shall require the Owner and/or supplier to provide the Division with the exact location, intended aquifer, projected depth and expected production of the planned well(s) or springs.

(c) The Division shall not issue approval for the construction and/ or development of well or spring where the following potential pollution sources are known to be present within the inner management zone:

1. underground storage tanks;
2. non-domestic septic tanks with drain fields;
3. animal feedlots, poultry enclosures, or animal enclosures (this rule shall not be construed to apply to family pets);
4. Environmental facilities permitted by the Division or other potential pollution sources identified in the inventory unless the Division has determined that there will be no releases to the ground or that such releases, if they occur, will not be a threat to public health and safety. Domestic septic systems that are identified within the inner management zone shall be excluded from the requirements of this section, provided they are located in accordance with the criteria specified in Rule 391-3-5-.07 of this Chapter.

(10) **Notification.** The Division shall notify the owner of any regulated or unregulated chemicals which the Division believes, based on the potential pollution source inventory, may be present in the control zone or management zones of new or existing individual wells, well fields, or springs.

(11) **Underground Injection Wells.** Within the inner management zone of existing wells and springs, the Division shall not issue any new permits for underground injection wells, with the exception of remediation wells.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Disposition of an Exemption Request” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** F. May 12, 1989, eff. June 1, 1989. **Amended:** New Rule entitled “Wellhead Protection” adopted. F. June 7, 1993; eff. June 27, 1993. **Amended:** F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. Sept. 29, 2000; eff. Oct. 19, 2000. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002. **Amended:** F. Dec. 21, 2004; eff. Jan. 10, 2005.

## **391-3-5-.41 Consumer Confidence Reports. Amended.**

(1) **Purpose and Applicability.** 40 CFR, Subpart O § 141.151 is hereby incorporated by reference.

(2) **Effective Dates.**

(a) Each existing community water system must deliver to all its customers its first report by October 19, 1999, its second report by July 1, 2000, and subsequent reports by July 1 annually thereafter. The first report must contain data collected during, or prior to, calendar year 1998 as prescribed in 40 CFR, Subpart O § 141.153(d)(3). Each report thereafter must contain data collected during, or prior to, the previous calendar year.

(b) A new community water system must deliver to all its customers its first report by July 1 of the year after its first full calendar year in operation and annually thereafter.

(c) A community water system that sells water to another community water system must deliver the applicable information required in 40 CFR, Subpart O § 141.153 to the buyer system:

1. No later than April 19, 1999, by April 1, 2000, and by April 1 annually thereafter or
2. On a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.
3. Content of the reports: 40 CFR, Subpart O § 141.153 is hereby incorporated by reference.
4. Required additional health information: 40 CFR, Subpart O § 141.154 is hereby incorporated by reference.
5. Report delivery and recordkeeping: 40 CFR, Subpart O § 141.155 is hereby incorporated by reference.
6. Appendix A to Subpart O of 40 CFR 141 — Regulated Contaminants is hereby incorporated by reference.
7. Regulated Contaminants: Appendix B to 40 CFR, Subpart O is hereby incorporated by reference.
8. Health Effects Language: Appendix C to 40 CFR, subpart O is hereby incorporated by reference.

(3) **Electronic Delivery.**

(a) **Community water systems may provide Consumer Confidence Reports electronically provided that:**

1. **The manner of the electronic delivery is a direct communication link, without use of an intermediary service;**
2. **There is an explanatory notice that accompanies the direct communication link;**
3. **The entire content of the Consumer Confidence Report is accessible;**
4. **The community water system shall provide the Consumer Confidence Report through another method should the community water system become aware of a customer's inability to receive the Consumer Confidence Report by the chosen electronic delivery method.**

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Public Hearings on Proposed Variances, Exemptions, and/or Schedules” adopted. F. July 5, 1977; eff. July 26, 1977, as specified by Rule 391-3-5-.47. **Repealed:** F. May 12, 1989; eff. June 1, 1989. **Amended:** New Rule entitled “Consumer Confidence Reports” adopted. F. Sept. 24, 1999; eff. Oct. 14, 1999. **Amended:** F. June 8, 2001; eff. June 28, 2001. **Amended:** F. Dec. 10, 2002; eff. Dec. 30, 2002.

### **391-3-5-.42 Source Water Assessment. Amended.**

(1) **Purpose.** The following Rule for Source Water Assessment serves to help protect the source waters of public water systems of the State.

(2) **Requirement to Develop a Source Water Assessment Plan.** By May 2003, each public water system of the State shall develop a Source Water Assessment Plan (SWAP) for every well and surface water intake used by the water system. SWAPs will be developed in accordance with the Division's *Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources*. Large surface water systems, which supply water (directly or through wholesale) to a population of 50,000 or more, will be delegated the responsibility of developing and implementing a Source Water Assessment Plan. Surface water systems which supply water (directly or through wholesale) to a population less than 50,000 will have the assessment done by the Division. The Division encourages both large and small surface water systems to create partnerships with each other and the Division in order to conduct assessment of common regional watersheds.

(3) **Components of a Source Water Assessment Plan.** A SWAP shall consist of four parts:

(a) The delineation of the area in proximity to the water well(s) or surface water intake(s) shall consist of:

1. At a minimum, a zone equivalent to the outer management zone of a wellhead protection area for water wells.
2. At a minimum, the upstream surface drinking water intake catchment area portions of the watershed as defined in the SWAP Implementation Plan.

(b) The water system shall inventory the potential pollution sources of natural and manmade origin within the area delineated in (a) above. The inventory will include the potential pollution sources as defined in the SWAP Implementation Plan.

(c) The water system shall carry out an assessment of the potential pollution sources' impact within the areas described by (a) above, on the raw water that may reach the water well(s) or surface water intake(s). Assessments for surface water intakes are to follow the guidance published in the SWAP Implementation Plan.

(d) The water system shall prepare a comprehensive SWAP report describing items (a), (b) and (c) above and submit the report to the Division for review and approval. The water system will make this report available to the public.

(4) **Use of Wellhead Protection Plans.** Public groundwater systems may use their prepared Wellhead Protection Plans and Vulnerability Assessments to satisfy the Source Water Assessment requirements.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Final Action on Variance/Exemption Request" adopted. F. July 5, 1977; eff. July 26, 1977, as specified by R. 391-3-5-.47. **Repealed:** F. May 12, 1989; eff. June 1, 1989. **Amended:** New Rule entitled "Source Water Assessment" adopted. F. Sept. 29, 2000; eff. Oct. 19, 2000.

## **391-3-5-.52 Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR).**

(1) **Purpose.** The purpose of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) is to reduce illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water. The rule supplements existing regulations by targeting additional *Cryptosporidium* treatment requirements to higher risk systems. This rule also contains provisions to reduce risks from uncovered finished water reservoirs and to ensure that systems maintain microbial protection when they take steps to decrease the formation of disinfection byproducts that result from chemical water treatment.

(2) **Applicability.** This regulation applies to all public water systems that use surface water or ground water under the direct influence (GWUDI) of surface water.

### **(3) Enhanced Treatment for *Cryptosporidium* – Subpart W.**

(a) General requirements. The requirements of this Subpart W are national primary drinking water regulations. The regulations in this subpart establish or extend treatment technique requirements in lieu of maximum contaminant levels for *Cryptosporidium*. These requirements are in addition to requirements for filtration and disinfection in subparts H, P, and T of this part.

(b) Applicability. The requirements of this subpart apply to all subpart H systems, which are public water systems supplied by a surface water source and public water systems supplied by a ground water source under the direct influence of surface water.

1. Wholesale systems, as defined in 40 CFR § 141.2, must comply with the requirements of this subpart based on the population of the largest system in the combined distribution system.

2. The requirements of this subpart for filtered systems apply to systems required by National Primary Drinking Water Regulations to provide filtration treatment, whether or not the system is currently operating a filtration system.

3. The requirements of this subpart for unfiltered systems apply only to unfiltered systems that timely met and continue to meet the filtration avoidance criteria in subparts H, P, and T of this part, as applicable.

(c) Requirements. Systems subject to this subpart must comply with the following requirements:

1. Systems must conduct an initial and a second round of source water monitoring for each plant that treats a surface water or GWUDI source. This monitoring may include sampling for *Cryptosporidium*, *E. coli*, and turbidity as described in 40 CFR §§ 141.701 through 141.706, to determine what level, if any, of additional *Cryptosporidium* treatment they must provide.

2. Systems that plan to make a significant change to their disinfection practice must develop disinfection profiles and calculate disinfection benchmarks, as described in 40 CFR §§ 141.708 through 141.709.

3. Filtered systems must determine their *Cryptosporidium* treatment bin classification as described in 40 CFR § 141.710 and provide additional treatment for *Cryptosporidium*, if required, as described in 40 CFR § 141.711. All unfiltered systems must provide treatment for *Cryptosporidium* as described in 40 CFR § 141.712. Filtered and unfiltered systems must implement *Cryptosporidium* treatment according to the schedule in 40 CFR § 141.713.

4. Systems with uncovered finished water storage facilities must comply with the requirements to cover the facility or treat the discharge from the facility as described in 40 CFR § 141.714.
  5. Systems required to provide additional treatment for *Cryptosporidium* must implement microbial toolbox options that are designed and operated as described in 40 CFR §§ 141.715 through 141.720.
  6. Systems must comply with the applicable recordkeeping and reporting requirements described in 40 CFR §§ 141.721 through 141.722.
  7. Systems must address significant deficiencies identified in sanitary surveys performed by EPA or Division as described in 40 CFR § 141.723.
- (4) **Source Water Monitoring.** 40 CFR, Subpart W § 141.701(a) through (h), in its entirety, is hereby incorporated by reference. Systems are required to conduct source water monitoring for *Cryptosporidium*, *E. coli*, and turbidity in accordance with the monitoring schedule specified in this section.
  - (5) **Sampling Schedules.** 40 CFR, Subpart W § 141.702(a) through (c), in its entirety, is hereby incorporated by reference. Systems required to conduct source water monitoring under 40 CFR § 141.701 must submit a sampling schedule that specifies the calendar dates when the system will collect each required sample.
  - (6) **Sampling Locations.** 40 CFR, Subpart W § 141.703(a) through (f), in its entirety, is hereby incorporated by reference. Systems required to conduct source water monitoring under 40 CFR § 141.701 must collect samples for each plant that treats a surface water or GWUDI source. Where multiple plants draw water from the same influent, such as the same pipe or intake, the Division may approve one set of monitoring results to be used to satisfy the requirements of 40 CFR § 141.701 for all plants. Systems must collect source water samples prior to chemical treatment, such as coagulants, oxidants and disinfectants, unless the Division determines that collecting a sample prior to chemical treatment is not feasible for the system and that the chemical treatment is unlikely to have a significant adverse effect on the analysis of the sample.
  - (7) **Analytical Methods.** 40 CFR, Subpart W § 141.704(a) through (c), in its entirety, is hereby incorporated by reference.
  - (8) **Approved Laboratories.** 40 CFR, Subpart W § 141.705(a) through (c), in its entirety, is hereby incorporated by reference.
  - (9) **Reporting Source Water Monitoring Results.** 40 CFR, Subpart W § 141.706(a) through (e), in its entirety, is hereby incorporated by reference.
  - (10) **Grandfathering Previously Collected Data.** 40 CFR, Subpart W § 141.707(a) through (h), in its entirety, is hereby incorporated by reference. Systems may comply with the initial source water monitoring requirements of 40 CFR § 141.701(a) by grandfathering sample results collected before the system is required to begin monitoring (i.e., previously collected data). To be grandfathered, the sample results and analysis must meet the criteria in this section and the Division must approve.
  - (11) **Requirements when Making a Significant Change in Disinfection Practice.** 40 CFR, Subpart W § 141.708(a) through (b), in its entirety, is hereby incorporated by reference. Following the completion of initial source water monitoring under 40 CFR § 141.701(a), a system



that plans to make a significant change to its disinfection practice, as defined in this section, must calculate disinfection benchmarks for *Giardia lamblia* and viruses as described in 40 CFR § 141.709. Prior to changing the disinfection practice, the system must notify the Division and must include in this notice the information outlined in this section. Significant changes to disinfection practice are defined as follows:

- (a) Changes to the point of disinfection;
- (b) Changes to the disinfectant(s) used in the treatment plant;
- (c) Changes to the disinfection process; or
- (d) Any other modification identified by the State as a significant change to disinfection practice.

(12) **Developing the Disinfection Profile and Benchmark.** 40 CFR, Subpart W § 141.709(a) through (e), in its entirety, is hereby incorporated by reference. Systems required to develop disinfection profiles under 40 CFR § 141.708 must follow the requirements of this section. Systems must monitor at least weekly for a period of 12 consecutive months to determine the total log inactivation for *Giardia lamblia* and viruses. The disinfection benchmark is the lowest monthly mean value (for systems with one year of profiling data) or the mean of the lowest monthly mean values (for systems with more than one year of profiling data) of *Giardia lamblia* and virus log inactivation in each year of profiling data.

(13) **Bin Classification for Filtered Systems.** 40 CFR, Subpart W § 141.710(a) through (f), in its entirety, is hereby incorporated by reference. Following completion of the initial round of source water monitoring required under 40 CFR § 141.701(a), filtered systems must calculate an initial *Cryptosporidium* bin concentration for each plant for which monitoring was required. Calculation of the bin concentration must use the *Cryptosporidium* results reported under 40 CFR § 141.701(a) and must follow the procedures outlined in this section.

(a) Filtered systems must determine their initial bin classification from the table in 40 CFR 141.710(c) and using the *Cryptosporidium* bin concentration calculated under paragraphs (a)–(b) of this section (40 CFR, Subpart W § 141.710).

(b) Following completion of the second round of source water monitoring required under 40 CFR § 141.701(b), filtered systems must recalculate their *Cryptosporidium* bin concentration using the *Cryptosporidium* results reported under 40 CFR § 141.701(b) and following the procedures in paragraphs (b)(1) through (4) of 40 CFR § 141.710. Systems must then redetermine their bin classification using this bin concentration and the table in paragraph (c) of 40 CFR § 141.710.

(14) **Filtered System Additional *Cryptosporidium* Treatment Requirements.** 40 CFR, Subpart W § 141.711(a) through (d), in its entirety, is hereby incorporated by reference. Filtered systems must provide the level of additional treatment for *Cryptosporidium* specified in paragraph (a) of 40 CFR § 141.711 based on their bin classification as determined under 40 CFR § 141.710 and according to the schedule in 40 CFR § 141.713.

(a) Filtered systems must use one or more of the treatment and management options listed in 40 CFR § 141.715, termed the microbial toolbox, to comply with the additional *Cryptosporidium* treatment required in paragraph (a) of 40 CFR § 141.711.

(b) Systems classified in Bin 3 and Bin 4 must achieve at least 1-log of the additional *Cryptosporidium* treatment required under paragraph (a) of 40 CFR § 141.711 using either one



or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in 40 CFR §§ 141.716 through 141.720.

(c) Failure by a system in any month to achieve treatment credit by meeting criteria in §§ 141.716 through 141.720 for microbial toolbox options that is at least equal to the level of treatment required in paragraph (a) of 40 CFR § 141.711 is a violation of the treatment technique requirement.

(15) **Unfiltered System *Cryptosporidium* Treatment Requirements.** All systems that are using surface water sources or groundwater sources that are determined to be under the direct influence of surface water supplies are required to provide filtration and disinfection treatments, in addition to that other treatments that are required by the Division, in order to comply with the drinking water standards, regulations and operating permit conditions, required by the Rules for Safe Drinking Water, Chapter 391-3-5. In order to provide regulatory information on the *Cryptosporidium* treatment requirements for unfiltered water systems, 40 CFR, Subpart W § 141.712(a) through (d) is hereby incorporated by reference.

(16) **Schedule for Compliance with *Cryptosporidium* Treatment Requirements.**

(a) Following initial bin classification under 40 CFR § 141.710(c), filtered systems must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.711 according to the schedule in paragraph (c) of this section.

(b) Following initial determination of the mean *Cryptosporidium* level under 40 CFR § 141.712(a)(1), unfiltered systems must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.712 according to the schedule in paragraph (c) of this section.

(c) *Cryptosporidium* treatment compliance dates.

| CRYPTOSPORIDIUM TREATMENT COMPLIANCE DATES TABLE  |   |
|---|---|
| Systems that serve ...  | Must comply with <i>Cryptosporidium</i> treatment requirements no later than ... <sup>(1)</sup> |
| At least 100,000 people.  | April 1, 2012   |
| From 50,000 to 99,999 people.   | October 1, 2012   |
| From 10,000 to 49,999 people.   | October 1, 2013   |
| Fewer than 10,000 people.   | October 1, 2014   |
| Note: <sup>(1)</sup> States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements. |   |

(d) If the bin classification for a filtered system changes following the second round of source water monitoring, as determined under 40 CFR § 141.710(d), the system must provide the level of treatment for *Cryptosporidium* required under 40 CFR § 141.711 on a schedule the Division approves.

**(e) If the mean *Cryptosporidium* level for an unfiltered system changes following the second round of monitoring, as determined under 40 CFR § 141.712(a)(2), and if the system must provide a different level of *Cryptosporidium* treatment under 40 CFR § 141.712 due to this**

change, the system must meet this treatment requirement on a schedule the Division approves.

(17) **Requirements for Uncovered Finished Water Storage Facilities.** All finished water storage facilities must be provided with a permanent cover, in accordance with Section 391-3-5-.11 of the rules. In order to provide regulatory information on the requirements for uncovered finished water storage facilities, 40 CFR, Subpart W § 141.714(a) through (d) is hereby incorporated by reference. Microbial toolbox options for meeting *Cryptosporidium* treatment requirements. 40 CFR, Subpart W § 141.715(a) through (b) is hereby incorporated by reference.

(a) Source toolbox components. 40 CFR, Subpart W § 141.716(a) through (b) is hereby incorporated by reference.

(b) Pre-filtration treatment toolbox components. 40 CFR, Subpart W § 141.717(a) through (c) is hereby incorporated by reference.

(c) Treatment performance toolbox components. 40 CFR, Subpart W § 141.718(a) through (c) is hereby incorporated by reference.

(d) Additional filtration toolbox components. 40 CFR, Subpart W § 141.719(a) through (d) is hereby incorporated by reference.

(e) Inactivation toolbox components. 40 CFR, Subpart W § 141.720(a) through (d) is hereby incorporated by reference.

(19) **Reporting Requirements.** 40 CFR, Subpart W § 141.721(a) through (f) is hereby incorporated by reference.

(20) **Recordkeeping Requirements.** 40 CFR, Subpart W § 141.722(a) through (c) is hereby incorporated by reference.

(21) **Requirements to Respond to Significant Deficiencies Identified in Sanitary Surveys Performed by EPA or Division.** 40 CFR, Subpart W § 141.723(a) through (d) is hereby incorporated by reference. Systems must respond in writing to significant deficiencies identified in sanitary survey reports no later than forty-five (45) days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey. Systems must correct significant deficiencies identified in sanitary survey reports according to the approved schedule, or if there is no approved schedule, according to the schedule submitted by the system if such deficiencies are within the control of the system.

(22) **Division Recordkeeping.** The records kept by the Division shall be in accordance with 40 CFR § 142.14.

(23) **Division Reporting.** The reporting by the Division shall be performed as required by 40 CFR § 142.15.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)” adopted. F. May 27, 2009; eff. June 16, 2009.

## **391-3-5-.53 Stage 2 Disinfection Byproducts Rule (Stage 2 DBPR)**

**Purpose.** The Stage 2 Disinfection Byproducts Rule (DBPR) (40 CFR, Subpart V § 141) builds on existing regulations by requiring water systems to meet disinfection byproduct (DBP) maximum contaminant levels (MCLs) at each monitoring site in the distribution system to better protect public health. The Stage 2 DBPR includes a provision requiring all community water systems (CWS) and only non-transient non-community water systems (NTNCWS) serving more than 10,000 people to conduct an initial distribution system evaluation (IDSE) (40 CFR, Subpart U § 141). NTNCWS serving less than 10,000 are exempted from IDSE requirements, but will need to comply with the Stage 2 DBPR compliance monitoring requirements. The goal of the IDSE is to characterize the distribution system and identify monitoring sites where customers may be exposed to high levels of total trihalomethanes (TTHM) and haloacetic acids (HAA5).

### **(1) Initial Distribution System Evaluations – Subpart U.**

(a) General requirements. The requirements of Subpart U of this part 141 constitute national primary drinking water regulations. The regulations in this Subpart establish monitoring and other requirements for identifying Subpart V compliance monitoring locations for determining compliance with maximum contaminant levels for total trihalomethanes (TTHM) and haloacetic acids (five) (HAA5). You must use an Initial Distribution System Evaluation (IDSE) to determine locations with representative high TTHM and HAA5 concentrations throughout your distribution system. IDSEs are used in conjunction with, but separate from, Subpart L compliance monitoring, to identify and select Subpart V compliance monitoring locations.

(b) Applicability. Public water systems are subject to these requirements if the water system is a community water system that uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light; or if the water system is a non-transient non-community water system that serves at least 10,000 people and uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(c) Schedule. 40 CFR Subpart U § 141.600(c), in its entirety, is hereby incorporated by reference. Systems required to comply with Initial Distribution System Evaluations – Subpart U, must comply with the schedule specified in the table 40 CFR § 141.600(c)(1). A wholesale system or a consecutive system must comply with the specified schedule at the same time as the system with the earliest compliance date in the combined distribution system.

(d) 40 CFR Subpart U § 141.600(d) through (f), in its entirety, is hereby incorporated by reference.

(e) Standard Monitoring. 40 CFR Subpart U § 141.601 is hereby incorporated by reference.

1. Standard monitoring plan. 40 CFR Subpart U § 141.601(a) through (c), in its entirety, is hereby incorporated by reference.
2. System specific studies. 40 CFR Subpart U § 141.602(a) through (b), in its entirety, is hereby incorporated by reference.
3. 40/30 Certification. 40 CFR Subpart U § 141.603(a) through (b), in its entirety, is hereby incorporated by reference.

4. Very small system waivers. 40 CFR Subpart U § 141.604(a) through (b), in its entirety, is hereby incorporated by reference.

(f) Subpart V compliance monitoring location recommendations. 40 CFR Subpart U § 141.605(a) through (e), in its entirety, is hereby incorporated by reference. Water system's IDSE report must include the recommendations and justification for where and during what month(s) TTHM and HAA5 monitoring for Subpart V of part 141 should be conducted. Water system must base its recommendations on the criteria in paragraphs (b) through (e) of this section.

(2) **Stage 2 Disinfection Byproducts Requirements– Subpart V.**

(a) General requirements. The requirements of Subpart V of this part constitute national primary drinking water regulations. The regulations in this Subpart establish monitoring and other requirements for achieving compliance with maximum contaminant levels based on locational running annual averages (LRAA) for total trihalomethanes (TTHM) and haloacetic acids (five) (HAA5), and for achieving compliance with maximum residual disinfectant residuals for chlorine and chloramine for certain consecutive systems.

(b) Applicability. Public water systems are subject to these requirements if the system is a community water system or a non-transient non-community water system that uses a primary or residual disinfectant other than ultraviolet light or delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light.

(c) Schedule. 40 CFR Subpart V § 141.620(c), in its entirety, is hereby incorporated by reference. Systems required to comply with Stage 2 Disinfection Byproducts Requirements – Subpart V, must comply with the schedule specified in the table 40 CFR § 141.620(c). A wholesale system or a consecutive system must comply with the specified schedule at the same time as the system with the earliest compliance date in the combined distribution system.

1. Systems serving 100,000 or more people: April 1, 2012
2. Systems serving 50,000-99,999 people: October 1, 2012
3. Systems serving 10,000-49,999 people: October 1, 2013
4. Systems serving fewer than 10,000 people: October 1, 2013 if no *Cryptosporidium* monitoring is required under 40 CFR § 141.701(a)(4) OR October 1, 2014 if *Cryptosporidium* monitoring is required under 40 CFR § 141.701(a)(4) or (a)(6).

(d) Monitoring frequency must be in accordance with 40 CFR Subpart V § 141.621(a)(2).

1. If a water system is required to conduct quarterly monitoring, it must begin monitoring in the first full calendar quarter that includes the compliance date in the table in paragraph 40 CFR § 141.620(c).
2. If a water system is required to conduct monitoring at a frequency that is less than quarterly, it must begin monitoring in the calendar month recommended in the IDSE report prepared under 40 CFR § 141.601 or 40 CFR § 141.602 or the calendar month identified in the Subpart V monitoring plan developed under 40 CFR § 141.622 no later than twelve (12) months after the compliance date in paragraph 40 CFR § 141.620(c).
3. If a water system is required to conduct quarterly monitoring, it must make compliance calculations at the end of the fourth calendar quarter that follows the compliance date and at the end of each subsequent quarter (or earlier if the LRAA calculated based on fewer than four

quarters of data would cause the MCL to be exceeded regardless of the monitoring results of subsequent quarters). If a water system is required to conduct monitoring at a frequency that is less than quarterly, it must make compliance calculations beginning with the first compliance sample taken after the compliance date.

4. For the purpose of the schedule in paragraph 40 CFR § 141.620(c), the Division may determine that the combined distribution system does not include certain consecutive systems based on factors such as receiving water from a wholesale system only on an emergency basis or receiving only a small percentage and small volume of water from a wholesale system. The Division may also determine that the combined distribution system does not include certain wholesale systems based on factors such as delivering water to a consecutive system only on an emergency basis or delivering only a small percentage and small volume of water to a consecutive system.

(e) Monitoring and compliance.

1. Systems required to monitor quarterly. To comply with Subpart V MCLs in 40 CFR § 141.64(b)(2), water system must calculate LRAAs for TTHM and HAA5 using monitoring results collected under this Subpart and determine that each LRAA does not exceed the MCL. If water system fails to complete four consecutive quarters of monitoring, you must calculate compliance with the MCL based on the average of the available data from the most recent four quarters. If you take more than one sample per quarter at a monitoring location, you must average all samples taken in the quarter at that location to determine a quarterly average to be used in the LRAA calculation.

2. Systems required to monitor yearly or less frequently. To determine compliance with Subpart V MCLs in 40 CFR § 141.64(b)(2), water system must determine that each sample taken is less than the MCL. If any sample exceeds the MCL, it must comply with the requirements of 40 CFR § 141.625. If no sample exceeds the MCL, the sample result for each monitoring location is considered the LRAA for that monitoring location.

(f) Violations. Water system is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if it fails to monitor.

(g) Routine monitoring. If a water system submitted an IDSE report, it must begin monitoring at the locations and months it has recommended in its IDSE report submitted under 40 CFR § 141.605 following the schedule in 40 CFR § 141.620(c), unless the Division requires other locations or additional locations after its review. If a water system submitted a 40/30 certification under 40 CFR § 141.603 or it qualified for a very small system waiver under 40 CFR § 141.604 or it is a non-transient non-community water system serving less than 10,000, it must monitor at the location(s) and dates identified in its monitoring plan in 40 CFR § 141.132(f), updated as required by 40 CFR § 141.622.

(h) Water system must monitor at no fewer than the number of locations identified in this paragraph:

| Source Water Type | Population Size Category  | Monitoring Frequency <sup>(1)</sup> | Distribution System Monitoring Locations Total per Monitoring Period <sup>(2)</sup> |
|-------------------|---------------------------|-------------------------------------|---|
| Subpart H         | <u>Fewer than</u> 500     | per year                            | 2   |
|                   | 500-3,300                 | per quarter                         | 2   |
|                   | 3,301-9,999               | per quarter                         | 2   |
|                   | 10,000-49,999             | per quarter                         | 4   |
|                   | 50,000-249,999            | per quarter                         | 8   |
|                   | 250,000-999,999           | per quarter                         | 12  |
|                   | 1,00,000-4,999,999        | per quarter                         | 16  |
|                   | 5,000, 000 <u>or more</u> | per quarter                         | 20  |
| Ground Water      | <u>Fewer than</u> 500     | per year                            | 2   |
|                   | 500-9,999                 | per year                            | 2   |
|                   | 10,000-99,999             | per quarter                         | 4   |
|                   | 100,000-499,999           | per quarter                         | 6   |
|                   | 500,000 <u>or more</u>    | per quarter                         | 8   |

NOTES:

(1) All systems must monitor during the highest month of DBP concentrations.

(2) Systems on quarterly monitoring must take dual sample sets every 90 days at each monitoring location, except for Subpart H systems serving 500–3,300 persons. Systems on annual monitoring and Subpart H systems serving 500–3,300 persons are required to take individual TTHM and HAA5 samples (instead of a dual sample set) at the locations with the highest TTHM and HAA5 concentrations, respectively. Only one location with a dual sample set per monitoring period is needed if highest TTHM and HAA5 concentrations occur at the same location (and month, if monitored annually).

(i) If a water system is an undisinfected system that begins using a disinfectant other than UV light after the dates in Subpart U of this part for complying with the Initial Distribution System Evaluation requirements, it must consult with the Division to identify compliance monitoring locations for this Subpart. The water system must then develop a monitoring plan under 40 CFR § 141.622 that includes those monitoring locations.

(j) Analytical methods. The water system must use an approved method listed in 40 CFR § 141.131, as stated in Section 391-3-5-.24(4)(g) of the Rules, for TTHM and HAA5 analyses. Analyses must be conducted by laboratories that have received certification by EPA or the Division.

(3) **Monitoring plans for Stage 2 Disinfection Byproducts Requirements–Subpart V.**

(a) Water system must develop and implement a monitoring plan to be kept on file for Division and public review. The monitoring plan must contain the following elements and be complete no later than the date it conducts its initial monitoring under this Subpart.

1. Monitoring locations;
2. Monitoring dates;



3. Compliance calculation procedures; and

4. Monitoring plans for any other systems in the combined distribution system if the Division has reduced monitoring requirements under its authority.

(b) If a water system was not required to submit an IDSE report under either 40 CFR § 141.601 or § 141.602, and it does not have sufficient Subpart L (Stage 1 DBPR) monitoring locations to identify the required number of Subpart V (Stage 2 DBPR) compliance monitoring locations indicated in 40 CFR § 141.605(b), it must identify additional locations by alternating selection of locations representing high TTHM levels and high HAA5 levels until the required number of compliance monitoring locations have been identified. It must also provide the rationale for identifying the locations as having high levels of TTHM or HAA5. If it has more Subpart L monitoring locations than required for Subpart V compliance monitoring in 40 CFR § 141.605(b), it must identify which locations it will use for Subpart V compliance monitoring by alternating selection of locations representing high TTHM levels and high HAA5 levels until the required number of Subpart V compliance monitoring locations have been identified.

(c) A Subpart H water system serving over 3,300 people must submit a copy of its monitoring plan to the Division prior to the date it conducts its initial monitoring under this Subpart, unless its IDSE report submitted under Subpart U of this part contains all the information required by this section.

(d) A water system may revise its monitoring plan to reflect changes in treatment, distribution system operations and layout (including new service areas), or other factors that may affect TTHM or HAA5 formation, or for Division-approved reasons, after consultation with the Division regarding the need for changes and the appropriateness of changes. If a water system changes monitoring locations, it must replace existing compliance monitoring locations with the lowest LRAA with new locations that reflect the current distribution system locations with expected high TTHM or HAA5 levels. The Division may also require modifications in water system's monitoring plan. A Subpart H system serving over 3,300 people must submit a copy of its modified monitoring plan to the Division prior to the date it is required to comply with the revised monitoring plan.

(4) **Reduced Monitoring.**

(a) The water system may reduce monitoring to the level specified in table 40 CFR § 141.623(a) any time the LRAA is **less than or equal to ( $\leq$ )**  $\leq 0.040$  mg/L for TTHM and **less than or equal to ( $\leq$ )**  $\leq 0.030$  mg/L for HAA5 at all monitoring locations. It may only use data collected under the provisions of this Subpart or Subpart L of this part to qualify for reduced monitoring. In addition, the source water annual average TOC level, before any treatment, must be **less than or equal to ( $\leq$ )**  $\leq 4.0$  mg/L at each treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either 40 CFR § 141.132(b)(1)(iii) or § 141.132(d).

(b) The water **system** may remain on reduced monitoring as long as the TTHM LRAA **less than or equal to ( $\leq$ )**  $\leq 0.040$  mg/L and the HAA5 LRAA **less than or equal to ( $\leq$ )**  $\leq 0.030$  mg/L at each monitoring location (for systems with quarterly reduced monitoring) or each TTHM sample **less than or equal to ( $\leq$ )**  $\leq 0.060$  mg/L and each HAA5 sample **less than or equal to ( $\leq$ )**  $\leq 0.045$  mg/L (for systems with annual or less frequent monitoring). In addition, the source water annual average TOC level, before any treatment, must be **less than or equal to ( $\leq$ )**  $\leq 4.0$  mg/L at each

treatment plant treating surface water or ground water under the direct influence of surface water, based on monitoring conducted under either 40 CFR § 141.132(b)(1)(iii) or §141.132(d).

(c) If the LRAA based on quarterly monitoring at any monitoring location exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5 or if the annual (or less frequent) sample at any location exceeds either 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, or if the source water annual average TOC level, before any treatment, is greater than (>)4.0 mg/L at any treatment plant treating surface water or ground water under the direct influence of surface water, the water system must resume routine monitoring under 40 CFR § 141.621 or begin increased monitoring if 40 CFR § 141.625 applies.

(d) The Division may return the water system to routine monitoring at its discretion.

(5) **Additional Requirements for Consecutive Systems.** A consecutive system that does not add a disinfectant but delivers water that has been treated with a primary or residual disinfectant other than ultraviolet light must comply with analytical and monitoring requirements for chlorine and chloramines in 40 CFR § 141.131 (c) and § 141.132(c)(1) and the compliance requirements in 40 CFR § 141.133(c)(1) beginning April 1, 2009, unless required earlier by the Division, and report monitoring results under 40 CFR § 141.134(c).

(6) **Conditions Requiring Increased Monitoring.**

(a) A water system that is required to monitor at a particular location annually or less frequently than annually under 40 CFR § 141.621 or § 141.623 must increase monitoring to dual sample sets once per quarter (taken every 90 days) at all locations if a TTHM sample is >0.080 mg/L or a HAA5 sample is >0.060 mg/L at any location.

(b) A water system is in violation of the MCL when the LRAA exceeds the Subpart V MCLs in 40 CFR § 141.64(b)(2), calculated based on four consecutive quarters of monitoring (or the LRAA calculated based on fewer than four quarters of data if the MCL would be exceeded regardless of the monitoring results of subsequent quarters). The water system is in violation of the monitoring requirements for each quarter that a monitoring result would be used in calculating an LRAA if it fails to monitor.

(c) A water system may return to routine monitoring once it has conducted increased monitoring for at least four consecutive quarters and the LRAA for every monitoring location is ≤0.060 mg/L for TTHM and ≤0.045 mg/L for HAA5.

(7) **Operational Evaluation Levels.**

(a) The water system has exceeded the operational evaluation level at any monitoring location where the sum of the two previous quarters' TTHM results plus twice the current quarter's TTHM result, divided by 4 to determine an average, exceeds 0.080 mg/L, or where the sum of the two previous quarters' HAA5 results plus twice the current quarter's HAA5 result, divided by 4 to determine an average, exceeds 0.060 mg/L.

1. If a water system exceeds the operational evaluation level, it must conduct an operational evaluation and submit a written report of the evaluation to the Division no later than 90 days after being notified of the analytical result that causes it to exceed the operational evaluation level. The written report must be made available to the public upon request.

2. The operational evaluation must include an examination of system treatment and distribution operational practices, including storage tank operations, excess storage capacity,



distribution system flushing, changes in sources or source water quality, and treatment changes or problems that may contribute to TTHM and HAA5 formation and what steps could be considered to minimize future exceedences.

(i) The water system may request and the Division may allow you to limit the scope of its evaluation if it is able to identify the cause of the operational evaluation level exceedance.

(ii) The water system's request to limit the scope of the evaluation does not extend the schedule in paragraph (b)1. of this section for submitting the written report. The Division must approve this limited scope of evaluation in writing and the water system must keep that approval with the completed report.

(8) **Requirements for Remaining on Reduced TTHM and HAA5 Monitoring Based on Subpart L Results.** 40 CFR Subpart V § 141.627 is hereby incorporated by reference.

(9) **Requirements for Remaining on Increased TTHM and HAA5 Monitoring Based on Subpart L Results.** 40 CFR Subpart V § 141.628 is hereby incorporated by reference.

(10) **Reporting and Recordkeeping Requirements.** 40 CFR Subpart V § 141.629 is hereby incorporated by reference.

(11) **Division Recordkeeping.** The records kept by the Division shall be in accordance with 40 CFR § 142.14.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled "Stage 2 Disinfection Byproducts Rule (Stage 2 DBPR)" adopted. F. May 27, 2009; eff. June 16, 2009.

## **391-3-5-.54 Ground Water Rule.**

**Purpose.** The United States Environmental Protection Agency established the Ground Water Rule, which the Division has adopted, to provide increased protection against microbial pathogens in public water systems that use groundwater as the source of drinking water.

(1) **General Requirements and Applicability.** 40 CFR, Subpart S §141.400 is hereby incorporated by reference.

(a) This Rule applies to the following:

1. Systems relying totally on groundwater; purchased water systems or consecutive systems receiving groundwater;
2. Mixed surface and groundwater systems where untreated groundwater is added directly to the distribution system or to the treated surface water prior to entry into the distribution system.

(b) Hydrogeologic Sensitivity Assessments.

1. Hydrogeologically sensitive settings include Karst (carbonate rock, i.e. limestone and dolostone), fractured bedrock and gravel.
2. Drinking water produced by water systems from aquifers consisting of the above geologic materials require hydrogeologic sensitivity assessments prepared by the Division.
3. The information that the Division requires to prepare a hydrogeologic sensitivity assessment may be requested by the Division from the water source's owner and/or found in one or all of three regulatory reports approved by the EPA:
  - (i) A water source's Well Head Protection Plan,
  - (ii) The Source Water Assessment, and/or
  - (iii) The Individual Source Vulnerability Assessment.
4. A water source Well Head Protection Plan consists of the information outlined in Chapter Section 391-3-5-.40(3) through (7).
5. A water source, Source Water Assessment consists of the information outlined in Chapter Sections 391-3-5-.06(4) and 391-3-5-.42(3) and (4).
6. A water source Individual Source Vulnerability Assessment consists of the information outlined in Chapter Sections 391-3-5-.22(g) through (i).
7. The water source rating developed for Individual Source Vulnerability Assessments is to be used to determine if a source is at high, medium, or low risk to microbiological contamination.

(c) Groundwater systems must comply with the requirements of this section beginning December 1, 2009.

(2) **Sanitary Surveys for Groundwater Systems.** 40 CFR, Subpart S § 141.401 is hereby incorporated by reference.

(a) Groundwater systems must provide the Division, at the Division's request, any existing

information that will enable the Division to conduct a sanitary survey.

(b) A sanitary survey conducted by the Division includes an onsite review of the water source(s), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system to evaluate the adequacy of the system, its sources and operations and the distribution of safe drinking water.

(c) The sanitary survey includes an evaluation of the applicable components listed below:

1. Source,
2. Treatment,
3. Distribution system,
4. Finished water storage,
5. Pumps, pump facilities, and controls,
6. Monitoring, reporting, and data verification,
7. System management and operation, and
8. Operator compliance with State requirements.

(3) **Groundwater Source Microbial Monitoring and Analytical Methods.** 40 CFR, Subpart S §141.402 is hereby incorporated by reference.

(a) Triggered source water monitoring is required when a groundwater system doesn't provide at least 4-log treatment of viruses before or at the first customer for each groundwater source in accordance with 40 CFR § 141.402(a).

1. A groundwater system must collect at least one 100 mL groundwater source sample from each source in use at the time of the total coliform-positive. This sample may be counted as a repeat sample or an additional sample collected along with the required number of repeat samples.

2. The source water sample must be analyzed for *E. coli* using a Division approved method. If found to be positive for *E. coli* the system must:

(i) Take corrective action as directed by the Division or

(ii) Collect 5 additional source water samples from that source within 24 hours to be analyzed for *E. coli*. The Division may extend the 24 hour time limit on a case-by-case basis.

(iii) If any of the additional source water samples are *E. coli* positive, then mandatory corrective action is required.

3. The Division does have the option to invalidate or waive triggered source water monitoring as stated in 40 CFR § 141.21(c) requirements when

(i) Total coliform positive sample is directly related to the distribution system.

(ii) Treatment problems.

(iii) Improperly constructed well.

(iv) System management and operation problems, etc.

4. Consecutive systems must notify the wholesale system within 24 hours of being notified of a total coliform positive sample. The wholesaler must collect a triggered source water sample within 24 hours from every one of its groundwater sources that may have supplied the consecutive system. If the sample is *E. coli* positive the wholesaler must notify any consecutive system served by the source(s) within 24 hours of being notified of the positive.

(b) Assessment Source Water Monitoring maybe required in accordance with 40 CFR § 141.402(b) by the Division for those systems that are at a higher risk for *E. coli* contamination based on source water assessment data, wellhead protection plans and historical monitoring data. They maybe require to perform one or more of the following based on a review by the Division on a case-by-case basis.

1. Collect a total of 12 groundwater source samples representing each month the system provides groundwater to the public.
2. Collect samples from each well unless the system obtains written approval from the Division to conduct monitoring at one or more wells within the system that are representative of multiple wells used by the system and that draw water from the same hydrogeological setting.
3. Collect groundwater source samples at a location prior to any treatment of the groundwater source unless the state approves a sampling location after treatment.
4. Collect groundwater samples at the well itself unless the system's configuration doesn't allow for such sampling and the Division approves an alternate sampling location that is representative of the water quality of the well.

(c) Positive Assessment Source Water samples will require the system to provide Tier 1 Public Notice, and the system must take corrective action as directed by the Division.

(d) Analytical Methods: 40 CFR § 141.402(c) see § 141-Regulating Contaminants.

(4) **Treatment Technique Requirements for Groundwater Systems.** 40 CFR, Subpart S §141.403 is hereby incorporated by reference.

(a) The treatment technique requirements of this section must be met by groundwater systems with significant deficiencies or source water fecal contamination:

1. When a significant deficiency is identified or when a groundwater source sample collected under 40 CFR § 141.402(a)(3) is fecal positive.
2. When directed by the Division, if a groundwater system with a groundwater source sample collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) is fecal positive.
3. When a significant deficiency is identified at a Subpart H public water system that uses both groundwater and surface water or groundwater under the direct influence of surface water, the system must comply with this section except in cases where the Division determines that the significant deficiency is in a portion of the distribution system that is served solely by surface water or groundwater under the direct influence of surface water.
4. Unless directed by the Division to implement a specific corrective action, the groundwater system must consult with the Division regarding the appropriate corrective action within thirty (30) days of receiving written notice from the Division of a significant

deficiency, written notice from a laboratory that a groundwater source sample collected under 40 CFR § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) requires corrective action.

5. Within 120 days of receiving written notification from the Division of a significant deficiency, written notice from a laboratory that a groundwater source sample collected under 40 CFR § 141.402(a)(3) was found to be fecal positive, or direction from the Division that a fecal positive collected under 40 CFR § 141.402(a)(2), § 141.402(a)(4), or § 141.402(b) requires corrective action, the groundwater system must either:

(i) Have completed corrective action in accordance with a Division approved corrective action plan.

(ii) Be in compliance with a Division approved corrective action plan and schedule subject to the conditions specified in paragraphs (a) and (b) of this section.

(I) The Division must approve any modifications to the corrective action plan and schedule.

(II) The system must comply with any interim measures specified by the Division for the protection of the public health pending Division approval of the corrective action plan and schedule or pending completion of the corrective action.

6. Groundwater systems that meet the conditions of paragraph (a)1. or (a)2. of this section must implement one or more of the following corrective action alternatives:

(i) Correct all significant deficiencies;

(ii) Provide an alternate source of water;

(iii) Eliminate the source of contamination; or

(iv) Provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a combination of both) before or at the first customer for the groundwater source.

7. Special Notice to the public of significant deficiencies or source water fecal contamination.

(i) In addition to the applicable public notification requirements of 40 CFR § 141.402, a community groundwater system that receives notice from the Division of a significant deficiency or notification of a fecal positive groundwater source sample that is not invalidated by the Division under 40 CFR § 141.402(d) must inform the public served by the water system under 40 CFR § 141.153(h)(6) of the fecal positive source sample or of any significant deficiency that has not been corrected. The system must continue to inform the public annually until the significant deficiency is corrected or the fecal contamination in the groundwater source is determined by the Division to be corrected under paragraph (a)5. of this section.

(ii) In addition to the applicable public notification requirements of 40 CFR § 141.402, a non-community groundwater system that receives notice from the Division of a significant deficiency must inform the public served by the water system in a manner approved by the Division of any significant deficiency that has not been corrected within twelve (12) months of being notified. The system must continue to inform the public annually until the significant deficiency is corrected. The information must include:

(I) The nature of the significant deficiency and the date the significant deficiency was identified by the Division;

(II) The Division approved plan and schedule for correction of the significant deficiency, including interim measures, progress to date, and any interim measures completed; and

(III) For systems with a large portion of non-English speaking consumers, as determined by the Division, information in the appropriate language regarding the importance of the notice or a telephone number or address where consumers may contact the system to obtain a translated copy of the notice or assistance in the appropriate language.

(iii) If directed by the Division, a non-community water system with significant deficiencies that have been corrected must inform its customers of the significant deficiencies, how the deficiencies were corrected, and the dates of correction.

(b) Compliance Monitoring.

1. 40 CFR, Subpart S, § 141.403(b), § 141.403(c), and § 141.403(d) are hereby incorporated by reference.

2. A groundwater system that is not required to meet the source water monitoring requirements in this section because it provides at least 4-log treatment of viruses for any groundwater source must notify the State in writing that it is providing at least 4-log treatment of viruses and begin compliance monitoring in accordance with this section by December 1, 2009.

3. A groundwater system that places a groundwater source in service after November 30, 2009, that is not required to meet the source water monitoring requirements in this section because it provides at least 4-log treatment of viruses for any groundwater source must notify the State in accordance with § 141.403(b)(2)(i), (b)(2)(ii) and (b)(2)(iii) and conduct compliance monitoring as required under § 141.403(b)(3) within thirty days of placing the source in service.

4. If the system subsequently discontinues 4-log treatment of viruses before or at the first customer for a groundwater source, the system must conduct groundwater source monitoring as required under 40 CFR § 141.402.

5. A groundwater system serving greater than 3,300 people that is required to conduct compliance monitoring must continuously monitor the residual disinfectant concentration using analytical methods specified in 40 CFR § 141.74(a)(2) at a location approved by the State and must record the lowest residual disinfectant concentration each day that water from the groundwater source is served to the public. The groundwater system must maintain the State-determined residual disinfectant concentration every day the groundwater system serves water from the groundwater source to the public. If there is a failure in the continuous monitoring equipment, the groundwater system must conduct grab sampling every four hours until the continuous monitoring equipment is returned to service. The system must resume continuous residual disinfectant monitoring within 14 days.

6. A groundwater system serving 3,300 or fewer people that is required to conduct compliance monitoring must monitor the residual disinfectant concentration using analytical methods specified in 40 CFR § 141.74(a)(2) at a location approved by the State and record the residual disinfect concentration each day that water from the groundwater source is served to

the public. The groundwater system must maintain the State-determined residual disinfectant concentration every day the groundwater system serves water from the groundwater source to the public. The groundwater system must take a daily grab sample during the hour of peak flow or at another time specified by the State. If any daily grab sample measurement falls below the State-determined residual disinfectant concentration, the groundwater system must take follow-up samples every four hours until the residual disinfectant concentration is restored to the State-determined level. Alternatively, a groundwater system that serves 3,300 or fewer people may monitor continuously and meet the requirements of 40 CFR § 141.403(b)(3)(i)(A).

7. A groundwater system may discontinue 4-log treatment of viruses if the State determines and documents in writing that 4-log treatment of viruses is no longer necessary for that groundwater source. A system that discontinues 4-log treatment of viruses is subject to the source water monitoring and analytical methods requirements of Subpart S, § 141.402.

8. Failure to meet the monitoring requirements of this section is a monitoring violation and requires the groundwater system to provide public notification under Subpart S, § 141.402.

9. A groundwater system conducting compliance monitoring under 40 CFR § 141.403(b) must notify the State any time the system fails to meet any State-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or membrane integrity, and alternative treatment operating criteria, if operation in accordance with the criteria or requirements is not restored within four hours. The groundwater system must notify the State as soon as possible, but in no case later than the end of the next business day.

(5) **Treatment Technique Violations for Groundwater Systems**, 40 CFR, Subpart S, § 141.404 is hereby incorporated by reference.

(a) A groundwater system with a significant deficiency is in violation of the treatment technique requirement if, within 120 days of receiving written notice from the Division of the significant deficiency, the system:

1. Does not complete corrective action in accordance with any applicable Division plan review processes including interim actions and measures specified by the Division, or
2. Is not in compliance with a Division approved corrective action plan and schedule.

(b) Unless the Division invalidates a fecal positive groundwater source sample under 40 CFR § 141.402(d), a groundwater system is in violation of the treatment technique requirement if, within 120 days of meeting the conditions of 40 CFR § 141.403(a)(1) or § 141.402(a)(2), the system:

1. Does not complete corrective action in accordance with any applicable Division plan review processes including interim actions and measures specified by the Division, or
2. Is not in compliance with a Division approved corrective action plan and schedule.

(c) A groundwater system subject to the requirements of 40 CFR § 141.402(a)(2) that fails to maintain at least 4-log treatment of viruses (using inactivation, removal, or a combination of the two) technique requirement if the failure is not corrected within four hours of determining the system is not maintaining at least 4-log treatment of viruses before or at the first customer.

(d) Groundwater systems must give public notification under 40 CFR § 141.203 for the treatment technique violations specified in paragraphs (a), (b) and (c) of this section.

(6) **Reporting and Recordkeeping for Groundwater Systems.** 40 CFR, Subpart S, § 141.405 is hereby incorporated by reference.

(a) In addition to the requirements of 40 CFR § 141.31, a groundwater system regulated under this subpart must provide the following information to the Division:

1. A groundwater system conducting compliance monitoring under 40 CFR § 141.403(b) must notify the Division any time the systems fails to meet any State-specified requirements including, but not limited to, minimum residual disinfectant concentration, membrane operating criteria or integrity, and alternative treatment operating criteria, if operation in accordance with the criteria or requirements is not restored within four (4) hours. The groundwater system must notify the State as soon as possible, but in no case later than the end of the next business day.
2. After completing any corrective action under 40 CFR § 141.403(a), a groundwater system must notify the State within thirty (30) days of completion of the corrective action.
3. If a groundwater system is subject to the requirements of 40 CFR § 141.402(a) does not conduct source water monitoring under 40 CFR § 141.402(a)(5)(ii), the system must provide documentation to the Division within thirty (30) days of the total coliform positive sample that it met the State criteria.

(b) In addition to the requirements of 40 CFR § 141.33, a groundwater system regulated under this subpart must maintain the following information in its records:

1. Documentation of corrective actions. Documentation shall be kept for a period of not less than ten years.
2. Documentation of notice to the public as required under 40 CFR § 141.493(a)(7). Documentation shall be kept for a period not less than three years.
3. Records of decisions under 40 CFR § 141.402(a)(5)(ii) and records of invalidation of fecal indicator-positive groundwater samples under 40 CFR § 141.402(d). Documentation shall be kept for a period of not less than five years.
4. For consecutive systems, documentation of notification to the wholesale system(s) of total-coliform positive samples that are not invalidated under 40 CFR § 141.21(c). Documentation shall be kept for a period of not less than five years.
5. For systems, including wholesale systems, that are required to perform compliance monitoring under 40 CFR § 141.403(b):
  - (i) Records of the State-specified minimum disinfectant residual. Documentation shall be kept for a period of not less than ten years.
  - (ii) Records of lowest daily residual disinfectant concentration and records of the date and duration of any failure to maintain the State-prescribed minimum residual disinfectant concentration for a period of more than four hours. Documentation shall be kept for a period of not less than five years.
  - (iii) Records of State-specified compliance requirements for membrane filtration and of



parameters specified by the Division for State-approved alternative treatment and records of the date and duration of any failure to meet the membrane operating, membrane integrity, or alternative treatment operating requirements for more than four hours. Documentation shall be kept for a period of not less than five years.

(7) **Division Recordkeeping.** The records kept by the Division shall be in accordance with 40 CFR § 142.14.

(8) **Division Reporting.** The reporting by the Division shall be performed as required by 40 CFR § 142.15.

Authority O.C.G.A. Sec. 12-5-170 *et seq.* **History.** Original Rule entitled “Ground Water Rule” adopted. F. May 27, 2009; eff. June 16, 2009.